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Bank Employees' Lived Experiences With the Implementation of Innovative Financial Technologies

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This is to certify that the doctoral dissertation by

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Walden University
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Abstract

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MBA, Kaplan University, 2009

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Dissertation Submitted in Partial Fulfillment

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Abstract

In recent academic research, the process of financial innovation has been explored with a focus on customer adoption, the process of implementing change, and performance. An underresearched topic within existing financial innovation research is how individuals experience the process of innovation. The research question guiding this study was to explore the lived experiences of bank employees regarding the implementation of innovative financial technology solutions in a highly regulated environment. An interpretive phenomenological approach was utilized within this study to explore the experiences of 18 individuals who participated in the implementation of innovative financial technology solutions while employed at a bank. Systems thinking, organizational innovation, and sensemaking were the foundation of the conceptual framework utilized for this study which was used to analyze the transcribed telephone interviews. The results of the study included the identification of four themes associated with the participants' lived experience of the implementation of innovation: change management, technology selection, leadership role, and employee engagement. Additional research could be conducted to further explore the role of the individual during change with a focus on nonbank entities. Insights derived from this study may influence bank leaders involved in similar future changes. Improving upon the implementation of changes in the banking industry may have an influence on economic growth and contribute toward positive consumer outcomes.

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Dedication

I dedicate the completion of this study to those who are academics at heart, lovers of data and analysis, and those who dare to dream big and put everything they have into making their dreams come true.

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I would like to express my appreciation to my husband, Wilberto, and my six children: Yosenia, Yanira, Adriana, Giana, Catalina, and Enzo. I sacrificed much family time on this journey to pursue my doctorate, and they have been incredibly supportive, only wishing for me to succeed. I only hope that I inspired my children to dream big and work tirelessly to accomplish their goals. To my husband, I appreciate how you stepped up when I had to step back and always encouraged me when things felt too overwhelming or difficult. I love you endlessly. I also owe a big thank you to Margi, who was always there for me, supporting me, lifting me up, and helping me get out of my own head. I am eternally grateful. To my close friends, thank you for keeping me on the path and encouraging me. To my extended family: I dared to dream and strive toward my goals, and it is through generations of sacrifice that I am able to pursue this degree and be the first in my family to achieve a doctorate degree.

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Chapter 1: Introduction to the Study

Financial innovation is prevalent in the banking industry to meet customer demands and to remain competitive (Broom, 2015; Cortet et al., 2016). The existing body of knowledge is largely focused on the customer experience or expectations (Nejad, 2016). This study may provide an alternate perspective on the implementation of innovation in the banking industry by exploring the lived experiences of bank employees. Exploring the lived experiences of those implementing financial innovation creates an opportunity to obtain additional information that may contribute to the continuous improvement of consumer protection efforts.

This chapter provides the background, purpose, problem statement, and overarching research questions for the research study. I describe the study's conceptual framework, which included systems thinking, supported by Von Bertalanffy's (2008) general systems theory; organizational change concepts, supported by Glor's (2015) organizational innovation theory; and sensemaking, as described by Weick's (1995) theory of sensemaking. The remainder of the chapter addresses the nature, definitions, assumptions, scope, limitations, and significance of the study.

Background of the Study

Financial innovation is an important phenomenon because it represents enhancement and forward movement, which can lead to increased value in an economy (Frame & White, 2004; Nisha, 2016). Hu (1991) provided a historical view of the substantial financial innovation that took place during the two decades prior to publication, which led to technologies that became central to the operations of banking

institutions, regulatory bodies, and entire economies. The continued development of innovative financial technologies by leaders within the finance industry has led to challenges, with increased risks for banks and consumers (Bexley, 2014; Hu, 1991; Zhao & He, 2014). The increased risks associated with new and evolving technological advances in financial technology have resulted in an influx of regulations imposed on the banking industry (Bexley, 2014; Zhao & He, 2014).

Regulation in the financial services industry has also been impacted by the most recent financial crisis (Bexley, 2014; Murphy, 2015). Due to risks that previous regulatory environments allowed leaders of financial institutions to take, there has been an increase in regulation since the financial crisis (Schöler et al., 2014). Increased regulation is one environmental factor impacting the development of financial innovation (Frame & White, 2004). In addition to the regulatory oversight of the Federal Deposit Insurance Corporation (FDIC), Federal Reserve Bank (FRB), and the Office of the Comptroller of the Currency (OCC), bank leaders became subject to other regulatory bodies and numerous legislative changes imposing additional regulations and requirements (Bexley, 2014; Murphy, 2015). The rules imposed by regulatory agencies can inhibit innovation due to strict regulatory requirements, which can lead to an increase in innovation outside the banking industry that circumvents regulation (Frame & White, 2004; Pacces, 2010).

Regulators have rarely taken the time to monetize the impacts of their new and changing rules and regulations (Batkins & Brannon, 2013). As a result of new and expanding regulatory requirements, the costs associated with bank leaders remaining

compliant with regulatory standards have increased (Bexley, 2014; KPMG, 2014). Preliminary results of a study conducted by researchers at Sam Houston State University using Texas banks indicated a potential cost of approximately $1,000,000 per Texas bank per year of regulation (Bexley, 2014). A separate study conducted on six large U.S. banks demonstrated an average cost of regulatory adherence equaling approximately $11.7 billion per participating bank by the end of 2013 (Federal Financial Analytics, 2014). According to Batkins and Brannon (2013), the average hourly cost to comply with Dodd-Frank, one of the many legislative works and requirements that banks must adhere to, is approximately $265 per hour.

High regulatory costs can lead to inhibition of innovation due to financial restrictions imposed on banking institutions (Broom, 2015; Frame & White, 2004). Fintech organizations can circumvent the regulations that banks are subject to because they are nonbank entities (Frame & White, 2004; Goeller & Shureen, 2016; Schneider et al., 2016). As a result, fintech companies can adopt experimental technologies and test their functionality without the scrutiny of regulators (Broom, 2015). Bank leaders face the challenge of pursuing innovation while also being held to heightened regulatory requirements (Broom, 2015). In 2014, nonbank providers accounted for 62% of fintech investments, while banks only accounted for 19% (Cortet et al., 2016). The remaining 19% accounted for collaboration between banks and nonbanks (Cortet et al., 2016). Fintech companies are addressing convenience, functionality, and user experience gaps that exist with traditional banking products (Cortet et al., 2016) and are doing so under minimal regulatory scrutiny (Schneider et al., 2016).

Consumer expectations are largely driven by the influence of digital technology (Cortet et al., 2016). Additionally, consumer confidence in the banking sector has been impacted by the trust breaches that have taken place (Jan et al., 2014). As a result, the flexibility and convenience that fintech companies provide have an impact on the way that business is conducted with financial customers (Broom, 2015; Cortet et al., 2016). The financial activities conducted by fintech companies have potential customer implications under consumer financial protection guidelines (Schneider et al., 2016). There is no clear guidance as to the application of such guidelines to fintech corporations (Schneider et al., 2016). Although there is agreement among regulators that consumer protections are necessary, there are also concerns related to difficulties with regulating fintech firms (Meager, 2017).

The risks associated with nonbank fintech organizations are a concern not only for regulators, but also for banking professionals in the United States and other countries (Bschor, 2015; Liang & Reichert, 2012; Yap, 2016). Still, fintech leaders view their services as beneficial to the banking industry (Bruggink, 2016). There are indeed customer benefits of using fintech technologies, such as flexibility, convenience, and advanced technological capability (Broom, 2015; Narsalay & Patrao, 2017). There are also risks associated with fintech technologies that would be difficult to regulate (Bahlke et al., 2016). Blockchain, for example, is a cryptographic technology that does not use centralized institutions or an intermediary to conduct secure money movement activities (Kiviat, 2015). The absence of an intermediary is a very different model from conventional money movement activities and challenges existing methods of regulating

traditional bank money movement activities (de Meijer, 2016; Harwick, 2016). Although the challenges and implications for the banking industry are covered by existing research, it remains unclear what the direct experiences are of those who have held responsibility for implementing innovative financial technology projects or processes.

Problem Statement

Banks are subject to a high degree of federal and legislative regulatory oversight, while nonbank corporations are governed at the state level. Fintech corporation leaders are subject to the regulations of state-level banking departments (Conference of State Bank Supervisors [CSBS], 2017). Bank leaders are also subject to state requirements, in addition to rules, regulations, and legislative changes from numerous federal-level regulatory bodies (Bexley, 2014; Murphy, 2015). Funk and Hirschman (2014) identified a need to be cognizant of the interactions between financial innovation activities within the banking industry and regulating agencies. There are existing limitations due to the increasing trend of financial innovation taking place outside of regulators' control (Schneider et al., 2016). Strict regulatory requirements from federal agencies can inhibit innovation for bank leaders, which can lead to an increase in innovation in less regulated environments (Frame & White, 2004; Pacces, 2010). The general problem is there are differences in the ability to implement innovative financial technologies for leaders of corporations that conduct customer financial transactions in the United States.

The specific problem is that leaders in the banking industry have been more focused on the process and results of innovation than considering the lived experiences of employees who implement innovation (Aspara et al., 2018; Çetinkaya Bozkurt & Kalkan,

2014; Ferdowsian, 2016; Nejad, 2016; Straub, 2016). The ability to remain innovative is dependent upon a person's ability to reflect on previous experiences and think of new ideas (Schuchmann & Seufert, 2015). The two components of innovation from an organizational perspective are the contributions of the individuals within the organization and the organizational environment, which can enable the implementation of innovation (Ferdowsian, 2016; Schuchmann & Seufert, 2015). Although researchers have conducted analyses regarding the impacts of regulation on innovation within the banking industry, the lived experiences of the employees who lead implementation efforts for innovative financial technology solutions have been an underresearched topic ("Becoming the Torchbearers," 2017; Çetinkaya Bozkurt & Kalkan, 2014; Straub, 2016).

Existing research focuses on the options that bank leaders have in order to respond to innovative financial technologies implemented by fintech companies and remain innovative themselves ("Becoming the Torchbearers," 2017; Straub, 2016). The amount of funds that bank leaders allocate and spend on information technology (IT) year over year has also been used as evidence to illustrate the effort of remaining competitive (EY, 2015). Although there are existing studies addressing the perspective of chief executive officers of banks regarding high-level strategies for innovative change (Berman et al., 2016; Crossman, 2016; Gandel, 2016), there is a distinct lack of information from the perspective from those who directly handle the implementation of such changes. This study may provide insight into the lived experiences of bank employees leading or actively participating in the implementation of innovative changes.

Purpose of the Study

The purpose of this qualitative, phenomenological study was to explore the lived experiences of bank employees regarding the implementation of innovative financial technologies in the United States. Interviews were used as the data collection method to explore the participants' experiences. The stories obtained from the interviews were analyzed for any themes that might emerge.

Research Question

The overarching research question for this study was the following: What are the lived experiences of bank employees regarding the implementation of innovative financial technology solutions in a highly regulated environment? A phenomenological approach is used to inquire about an individual's lived experiences of a stated phenomenon (Sloan & Bowe, 2014). For this study, the lived experiences of the participants regarding the implementation of innovative financial technologies were used.

Conceptual Framework

A conceptual framework can assist researchers with structuring the aspects of inquiry within a project (Kumar & Antonenko, 2014). When researchers are developing a conceptual framework, their goals determine the context, formal and informal theories, and methods to be included (Ravitch & Riggan, 2017). The selected conceptual framework for this study included the concepts of systems thinking, organizational change, and sensemaking. In qualitative research, a conceptual framework can be informed by a single theory or various theories (Green, 2014). The conceptual framework for this study was informed by three theories: general systems theory, the theory of

organizational innovation and change, and sensemaking theory. A more detailed description of the conceptual framework will be provided in Chapter 2.

Systems thinking is at the foundation of analyzing interactions between components of a system (Senge, 2010). Systems thinking offers a way to view and evaluate systems in a holistic manner, including the interactions and connections within systems (von Bertalanffy, 2008). The systems of innovation approach also offers a holistic view with the lens of an innovation system (Edquist, 2006). In addition, organizational change and innovation concepts can be used to explain patterns that emerge from a system within an organization based on complex factors, which could include organizational culture, motivation, and challenges resulting from innovation implementation (Glor, 2015). Weick (1995) also acknowledged that organizations are collections of systems. The concept of sensemaking provides the human aspect of the conceptual framework by describing ways in which lived experiences are socialized, perceived, and analyzed, and how meaning is constructed (Weick, 1995). Together, systems thinking, organizational change, and sensemaking formed the conceptual framework that was used to explore the lived experiences of bank employees during the implementation of innovative technological changes.

In support of the concept of systems thinking, general systems theory is a framework of general theory to enable the connection of relevant information across fields and disciplines (Boulding, 1956). General systems theory applies to many areas, practices, and methodologies, and thus can be used to evaluate an entire system holistically by reviewing the connections and flow of information throughout the system

(Midgley & Wilby, 2015). The scope of an open system is defined by its components and their interaction with the environment (Caws, 2015). When using a systems thinking approach while conducting a qualitative analysis, a researcher explores the interrelated components of the system (Salmona et al., 2015). This systematic approach assists with the analysis of system characteristics, such as roles, boundaries, and overlap (Salmona et al., 2015). Systems thinking and the supporting general systems theory were relevant to this study because the inclusion of systems thinking permitted the exploration of the participants' lived experiences in a holistic manner. The lived experiences of the participants provide insight on their perception of the components of the financial system—in this case, the implementation of innovative financial technologies.

Organizations innovate so that they can either remain competitive within their industry or gain a competitive advantage (Glor, 2015). Organizational change and innovation were at the core of this study. Glor's (2015) theory of organizational innovation and change contains concepts related to innovation, change, fitness, and survival. Related to organizational fitness, there are three orders of change: changes in process, changes in organizational infrastructure, and changes in organizational goals. Changes relating to infrastructure include items that differentiate the organization from others (Glor, 2015). The systems of innovation approach takes a holistic perspective to innovation within a system, which can be the reason for the changes described by theory of organizational innovation and change (Edquist, 2006; Glor, 2015).

Innovation can either threaten the vitality of an organization or help the organization to flourish (Glor & Ewart, 2016). Researchers can identify the effects of

innovation on organizations by using various levels of analysis, with analysis at the individual contributor level being one of the suggestions (Glor, 2015). Organizational change concepts and the supporting theory of organizational innovation were relevant to this study because the implementation of innovative financial technologies in the banking industry was the phenomenon that was explored. The participants' lived experiences provided insight into the impacts of innovation on components of the organizational system, including the impacts on individuals who participate in the implementation of innovation.

At the most basic level, sensemaking is an ongoing assessment of reality that takes place to retroactively make sense of things that have previously occurred (Weick, 1993). "Sensemaking is about the way people generate what they interpret" (Weick, 1995, p. 13). Sensemaking assists with transforming the subjective into something that is more tangible (Weick, 1995). People seek to make retrospective sense of scenarios that have taken place and make sense of it by thinking back upon a reality in which the action already took place (Weick, 1995). Weick (1995) explained that people invent the stories of their experiences based upon their individual, retrospective view. Human experiences are usually progressively clarified in reverse order, where the outcome of a situation develops the prior definitions (Weick, 1995). The general concept of sensemaking and the supporting sensemaking theory were relevant to this study due to the included processes of discovery and creation, as well as interpretation and authoring of the stories of study participants (Weick, 1995). Sensemaking not only is used by people to process their daily experiences (Weick, 1995), but also is used by researchers who pursue

phenomenological studies (Brown et al., 2015). The process of seeking information, interpreting responses, and identifying patterns is a part of sensemaking (Weick, 1995) and was relevant to analyzing the lived experiences of the participants in this study.

Nature of the Study

The aim of the study was to explore the lived experiences of bank employees during the implementation of innovative financial technologies in a highly regulated environment. A qualitative interpretive phenomenological study was used due to the appropriateness of qualitative research methods for studies related to human experiences and the lived experience aspect of the study (Van Manen, 1990, 2014). The phenomenological approach was aligned with the problem statement, in that I sought to develop an understanding of a phenomenon from the perspective of participants by exploring their lived experiences (Sloan & Bowe, 2014).

Purposeful sampling was an appropriate participant selection sampling method due to the nature of the study. Participants in phenomenological studies need to have experienced the phenomenon that is being studied to provide their lived experiences (Van Manen, 1990). Purposeful sampling aids in gathering and exploring examples of experiences that are relevant to a phenomenon being studied (Van Manen, 2014). Bank employees who were technology managers, project managers, business analysts, or subject matter experts who participated the implementation of innovative financial technology in a highly regulated banking environment during the timeframe of 2013 through 2019 were the central focus of the study. The timeframe was chosen due to the

exponential growth of financial technology innovation between 2013 and 2017 (Kursh & Gold, 2016; Ryu, 2018).

Participants were obtained through several methods. Participants were obtained via professional network connections or via referral. Professional social networks, such as LinkedIn, were used for this purpose. Bank- or technology-specific networking groups and the Walden Participant Pool were also used as avenues to identify additional participants.

Sample sizes in phenomenological research are relatively small and purposeful (Alase, 2017). According to Alase (2017), the number of participants in a phenomenological study can range from 2 to 25. For this study, the target sample population was 20 participants. The number of actual participants was dependent upon reaching data saturation or hearing the same responses repeatedly (Ravitch & Carl, 2016). As a result, the actual sample size was 18 participants. Saturation was demonstrated by a lack of new information or themes emerging from the data upon detailed analysis, as further described in Chapter 4 (Ravitch & Carl, 2016).

A phenomenological approach with semistructured interviews conducted via telephone was used for this study. The semistructured interviews allowed for theoretically driven as well as open-ended questions, which helped to elicit responses grounded in the lived experiences of the participants as well as data specific to the phenomenon that was studied (Galletta, 2013). The participants' interviews were digitally recorded with their permission. The interview guide questions were utilized within each interview for consistency, although they may have been asked in a different order based on the

participant's responses. Probing questions were used when appropriate to ensure the clarity of the responses received. The primary data sources for the study were interview transcripts, the interview guides, field notes, and bracketed material.

Interpretive phenomenological analysis (IPA) was used for data analysis in conjunction with thematic analysis (Smith et al., 2010; Van Manen, 2014). The IPA method of data analysis includes six steps: review data, take initial notes, document emergent themes, identify connections between themes, move to the next case, and analyze themes across the data set (Smith et al., 2010).Van Manen's (2014) thematic analysis approach to explore the meaning of a lived experience describes three ways to approach data: reviewing in a holistic manner, reviewing a selection of the data, and reviewing in a detailed manner. This detailed thematic analysis took place during Step 3 of the IPA method. HyperResearch, a software program that is used in qualitative research, was used as a repository for manual inductive coding, assigned to transcript segments according to the data analysis steps (ResearchWare, n.d.). The analysis of the transcripts was used to develop experience summaries, and member checking was performed.

Definition of Terms

Actor: Participant in action or processes in a network (Hartt & Jones, 2013).

Bank employee: In the context of this study, bank employees are technology managers, project managers, business analysts, or subject matter experts who participated the implementation of innovative financial technology in the banking industry during the timeframe of 2013 through 2019.

Bracketing: Documentation of beliefs or thoughts about something to call attention to assumptions and reduce the risk of bias (van Manen, 2014).

Cross-border transactions: International payments or financial transactions (Scott & Zachariadis, 2014).

Financial innovation: New technologies, products, services, processes, or organizational forms that reduce costs or risks, or that provide an improved experience for consumers (Frame & White, 2004).

Fintech: Combination of IT and financial services; the offering of products and services typically provided by banks (Ryu, 2018). This term is used to exclude traditional banks (Van Loo, 2018).

Fintech organizations: Nonbank corporations that conduct customer financial transactions (Narsalay & Patrao, 2017).

Hermeneutic circle: Consideration of the interdependencies between the individual parts and the whole data set for research (Moustakas, 1994; Smith et al., 2010).

Interpretive phenomenological analysis (IPA): A method of data analysis that includes the following six steps: review data, take initial notes, document emergent themes, identify connections between themes, move to the next case, and analyze themes across the data set (Smith et al., 2010).

Lived experiences: Events that are experienced by a person; an important aspect of phenomenological research (Van Manen, 2014).

Lived meaning: How reality and meaning are derived by humans and their personal experiences (Van Manen, 2014).

Phenomenological research: A method of research used to study lived experiences of a stated phenomenon (Sloan & Bowe, 2014).

Reduction: Focused examination of a phenomenon with an open mind prepared by bracketing activities (van Manen, 2014).

Sensemaking: Activity performed by individuals to make sense of or understand their individual experiences (Weick, 1995).

Social dilemma: A situation that leads to self-damage; a situation that demonstrates lack of operating in the common best interest (Valentinov & Chatalova, 2016).

Society for Worldwide Interbank Financial Telecommunication (SWIFT): Belgian company established in the 1970s; protocols for cross-border transactions (Bátiz-Lazo, 2015; Ripoll Servent & MacKenzie, 2011; Scott & Zachariadis, 2014).

Assumptions

The lived experiences of the participants of a study provide the data for phenomenological research. The key assumption of this study was that participants were willing to share their lived experiences related to the stated phenomena. This study may have been a way for employees to express their perspectives on the implementation of new or changing technology, including any challenges related to the experience. An additional assumption was that the participants were open and honest when responding to the interview questions regarding their lived experiences.

Scope and Delimitations

The alignment of scope and delimitations is a key step in the process of research development (Snelson, 2016). This study involved examining the lived experiences of employees with experience managing staff or managing a project involved with the implementation of innovative financial technologies within the banking industry. The focus was on the employees' individual experiences and perceptions of stress factors, industry conditions, the organizational change environment, successes, challenges faced, and any recommended alternatives and improvements to the process of implementing innovative technologies in the banking industry.

The scope was narrowed by using a purposeful sample of 18 participants from the target population who had firsthand experience with the research phenomenon (Alase, 2017; Van Manen, 2014). The actual number of participants differed from the initial target sample of 20 participants due to reaching data saturation and achieving the purpose of this study. The conceptual framework provided a way to examine participants' lived experiences, which I obtained through the interview process. I combined the concepts of systems thinking, organizational change, and sensemaking with the supporting general systems theory (Von Bertalanffy, 2008), organizational innovation theory (Glor, 2015), and the theory of sensemaking (Weick, 1995) to develop the conceptual framework. The results of the study may be transferable to technology managers and leaders within the banking industry and other highly regulated industries that are reliant upon innovative technology solutions.

Limitations

This study had the following limitations, which I took reasonable measures to address. The use of a purposeful sample restricts the participants in a study to people who have experienced the phenomenon being studied. Although purposeful sampling is a limitation to a study, sample sizes for phenomenological studies are relatively small due to the purposeful selection of participants based on the phenomenon being studied (Alase, 2017). In addition, the methodology used was a phenomenological study with telephone interviews to collect data, which allowed me to focus on getting qualified participants without being limited by geographic location (Rubin & Rubin, 2012). As a result, the participants in the study were geographically diverse.

Because the researcher is the instrument in a qualitative study (Newman & Tufford, 2012; Patton, 2015), I interpreted the participants' lived experience through my personal framework, which may have introduced bias. To reduce bias, I used bracketing and kept a research log to record data interpretation choices, reflections, and any encounters with participants (Newman & Tufford, 2012). I have also documented any relevant knowledge of previous research or theories about the research topic, if and when applicable.

Qualitative research methods include reflective processes for the development of knowledge with the ambition of transferability beyond the study (Malterud, 2001). If the reader of a study finds the results useful and insightful, then the findings are transferable (Van Manen, 2014). Although phenomenological studies do not lead to empirical generalizations (Van Manen, 2014), managers in the financial industry or managers of

technology development in other heavily regulated environments may find the study findings useful.

Significance of the Study

Significance to Discipline and Practice

The topic of this study is a current topic with future implications. Due to the digital transformation taking place in most industries, bank leaders have looked to adjust to changes by adopting competitive technology (Schuchmann & Seufert, 2015; Straub, 2016). The execution of innovative technologies may be thwarted by organizational mistakes during implementation (Ferdowsian, 2016). There is little research that includes the lived experiences of those who implement innovative solutions (Çetinkaya Bozkurt & Kalkan, 2014). Bank leaders could leverage the perspectives gathered for this study to inform decision making related to advances in banking technology.

Regulatory requirements have a direct impact on the financial services industry (Bexley, 2014; Murphy, 2015). Regulators could use the results of the study to inform future regulation related to banking technology and third-party banking technology providers. Regulators are also actively working on determining the impacts of federal regulations for fintech institutions (Schneider et al., 2016). Fintech corporation leaders could use the information to inform their business practices and prepare for any future regulatory requirements that may be implemented.

Implications for Positive Social Change

Financial institutions cannot contribute to economic growth without consumers (Kovacevich, 2014). Consumer protections are a primary concern for federal regulators,

as well as financial institutions (Murphy, 2015; Schneider et al., 2016). Consumer protections include interactions with third-party vendors, which are companies that are contracted to provide a service (Schneider et al., 2016). The three major banking crises in the past 40 years provided evidence that balance is still needed to improve consumer protections (Kovacevich, 2014). This study may help to advance continuing consumer protection efforts in the future by providing insight into the experiences of bank employees when implementing innovative technologies. Insights gleaned may include process developments, procedural changes, or reliance on third-party relationships with vendors. Consumers could also use the information to inform decisions related to who they choose to provide their financial services.

Summary and Transition

The summary provided within this chapter supports the specific problem explored in this study, which was that leaders in the banking industry have been more focused on the process and results of innovation than considering the lived experiences of employees who implement innovation (Aspara et al., 2018; Çetinkaya Bozkurt & Kalkan, 2014; Ferdowsian, 2016; Nejad, 2016; Straub, 2016). A phenomenological approach was used to inquire about the lived experiences of bank employees during the implementation of innovative financial technology (Van Manen, 1990; Van Manen, 2014). Semistructured interviews were used to explore the lived experiences of participants, and thematic analysis and IPA were used for data analysis (Smith et al., 2010; Van Manen, 2014). The assumptions, scope and delimitations, and limitations of the study were described as well. The significance of the study at an organization level may involve the use of the results

by bank leaders or regulatory agencies to inform future decisions, such as those involving consumer protections. Consumers may also be able to use the results to inform their decisions on who to choose for conducting financial transactions.

Within Chapter 2, the method by which articles were gathered will be explained, including relevant information in support of the research problem. A description of the conceptual framework is also presented, along with an explanation of how the principles related to this study. Following that, a detailed literature review will be provided that describes relevant literature and previous research related to this study.

Chapter 2: Literature Review

The specific problem is that leaders in the banking industry have focused on the process and results of innovation rather than considering the lived experiences of employees who implement innovation (Aspara et al., 2018; Çetinkaya Bozkurt & Kalkan, 2014; Ferdowsian, 2016; Nejad, 2016; Straub, 2016). The purpose of this phenomenological study was to explore the lived experiences of bank employees regarding the implementation of innovative financial technologies in a regulated environment. From an organizational perspective, two components of innovation are the organizational environment in which the innovation takes place and the contributions of employees (Ferdowsian, 2016; Schuchmann & Seufert, 2015). Employees' reflection on previous experiences and their development of new ideas are important to innovation within an organization (Schuchmann & Seufert, 2015). The impacts of regulation on innovation have been explored; however, lived experiences of employees who have overseen the implementation of innovative financial technology solutions have been an underresearched topic ("Becoming the Torchbearers," 2017; Çetinkaya Bozkurt & Kalkan, 2014; Straub, 2016).

This chapter provides a description of the literature review strategy, which includes the keywords used within search engines, online libraries, and research databases. Additionally, the conceptual framework is described, which included systems thinking, sensemaking, and organizational change concepts. These concepts were further informed by Von Bertalanffy's (2008) general systems theory, Weick's (1995) theory of sensemaking, and Glor's (2015) theory of organizational innovation and change. Finally,

an extensive literature review is provided to support the need to address the identified research problem.

Literature Search Strategy

To gain an in-depth perspective on this study, I reviewed existing research in varying formats. I queried several academic databases using a general-to-specific strategy to search for relevant references in Academic Search Complete, Business Source Complete, SAGE, and ABI/Inform Complete. The general queries used the keywords *innovation, banking, innovative technology, fintech, regulation, sensemaking, general systems theory, financial innovation, organizational innovation, lived experiences,* and *phenomenology*. Apart from references related to the conceptual framework, the review primarily involved works published from 2012 to the present, including both articles and books to identify foundational literature relevant to this study. I included seminal researchers and articles relevant to the foundational aspects of the study. I also reviewed recent business articles and published books that were relevant to the research problem and purpose. I used keyword searches on Google Scholar to identify articles or other sources that were potentially relevant.

After reviewing the results from a more general search, I refined the search criteria to use synonyms and more descriptive terminology to obtain more relevant search results. Keyword phrase searches included *regulation* and *banks, banks* and *innovation, fintech* and *innovation, regulation* and *fintech, bank* and *regulation* and *innovation, lived experience* and *bank, lived experience* and *technology, sensemaking* and *bank, general systems theory* and *bank,* and *phenomenology* and *innovation*. The searches were

primarily focused on full-text, peer-reviewed resources published within the past 5 years. Upon reviewing the literature from both the general and more specific searches, I reviewed reference listings to determine if there were any additional resources that could be used to support my research. Due to the current nature of the topic of this study, there were limited references related to fintech organizations from peer-reviewed sources. I focused on using synonyms to expand the search criteria to find relevant resources where there were limited results.

Conceptual Framework

The conceptual framework started with systems thinking, because an organization is an organic, living system (Wheatley, 2006). The concept of an organic system led to contemplation of concepts that were more closely related to the research question. Due to the nature of the area being researched, organizational innovation was an integral concept. Innovation within an organization consists of the individual contributions of the humans who are part of the system (Ferdowsian, 2016; Schuchmann & Seufert, 2015). Because the lived experiences of participants were used for this study, the methods by which humans think about their experiences were also important. Human living system components are able to remain innovative based on reflection on previous experiences, or sensemaking, and generation of new ideas (Schuchmann & Seufert, 2015; Wheatley, 2006). As a result of the described concepts, the conceptual framework was informed by the following three theories: general systems theory, the theory of organizational innovation and change, and sensemaking theory (Glor, 2015; von Bertalanffy, 1972; Weick, 1995).

To understand an organized whole, it is integral to have a view of all aspects of the whole and the relationships among them (von Bertalanffy, 1972). Systems thinking and general systems theory provide a way to assess and analyze systems holistically, which includes exchanges and connections within systems (Von Bertalanffy, 2008). Similarly, the systems of innovation approach has an integrated systems perspective, providing a holistic approach to innovation (Edquist, 2006). Organizational innovation theory expands upon the interactions within a system, focusing on emerging patterns from organizational systems that result from interactions of organizational culture, motivation, and the level of difficulty associated with the implementation of an innovative project (Glor, 2015). Sensemaking theory aids in the description of ways in which lived experiences are perceived and examined and in which meaning is constructed, providing the human experience aspect of the conceptual framework (Weick, 1995). Systems thinking, organizational innovation, and sensemaking were the foundation of the conceptual framework for the exploration of the lived experiences of bank employees during the implementation of innovative technologies.

Systems Thinking

A system is created by interactions (Senge et al., 1999; Von Bertalanffy, 1972). The continuous interactions between the parts of an organization are the basis of the organizational system (Senge et al., 1999). In an organizational system, knowledge is held by the workforce employed by the company (Scott & Davis, 2016). Experiential learning is a key method by which people develop a better understanding of the

interrelated parts of a system, which leads to systems thinking (Garavito-Bermúdez et al., 2016; Senge et al., 1999).

Organizations can be analyzed as open systems because they are capable of self-continuation through the utilization of resources from the environment in which they exist (Scott & Davis, 2016). Open systems, such as living systems within organizations, exchange matter within their environment (von Bertalanffy, 2008). There is an inability to maintain a consistent state of equilibrium in an open system due to the continuous breaking down and building up of components, and the inflow/outflow of matter (von Bertalanffy, 1968). In open systems, different starting points and different processes can lead to the same final result (von Bertalanffy, 1968). Systems thinking within an organization allows leaders to develop a plan of action in order to accomplish a goal (Senge, 2010). Without systems thinking, the goal has no basis on which to come to fruition (Senge, 2010). Changes may not be successful, or there may be failures in other interconnected areas of the system that were not considered appropriately (Garcia-Quevedo et al., 2018).

The intricacies that exist within systems are at the foundation of the development of general systems theory (von Bertalanffy, 1968). General systems theory provides universal principles that apply generally to various types of systems (von Bertalanffy, 1968). Due to its nature, general systems theory has been widely applied to diverse types of systems in various areas of concentration (Midgley & Wilby, 2015; Rousseau, 2015). In addition, general systems theory embraces the diversity of systems at various levels of intricacy (Caws, 2015). Knowledge is a function of what is experienced by humans and

social organizations (Boulding, 1956). General systems theory provides a framework in which living systems can be analyzed (von Bertalanffy, 1968). Qualitative analyses that use a systems theory approach explore the various relationships within the components of a system (Salmona et al., 2015). This systematic approach aids with the analysis of system characteristics (Salmona et al., 2015), as well as the dependencies between system components and environmental factors (von Bertalanffy, 1968).

General systems theory provides a method of investigation for organized entities, inclusive of social groups and technological devices (von Bertalanffy, 1972). Much can be learned from analyzing systems as a whole to solve organizational problems and to have a thorough understanding of organizational behavior (von Bertalanffy, 1968). For example, general systems theory has been used to conduct analyses of economic models (Elsner, 2017; Hendry & Martinez, 2017). Systems theory is utilized for multiple purposes, including to aid in determining the effectiveness of economic models (Elsner, 2017). The effectiveness of models is important because of the importance of forecasting to financial policy development (Hendry & Martinez, 2017). The financial crisis in 2008 was a representation of how simplistic analysis of complex systems can lead to systemic breakdown within the finance industry (Elsner, 2017), as is further explained in the Literature Review section.

Social dilemmas within institutional economic scenarios have been analyzed through the use of systems theory (Valentinov & Chatalova, 2016). A social dilemma is comprised of exposure, social uncertainty, and environmental uncertainty (Cardador et al., 2017). As a result, social dilemmas assist in highlighting scenarios in which there is

conflict between the gratification of the self and gratification for the collective good (Cardador et al., 2017). Social dilemmas can also expose a lack of rules to define appropriate collective behaviors (Valentinov & Chatalova, 2016). The interdependence between systems and their environments that is underscored by general systems theory has been used to analyze the systematic emergence of social dilemmas (Valentinov & Chatalova, 2016). An understanding of the real-world conditions and systemic requirements of modern society is lacking when it relates to the resulting social dilemmas (Valentinov & Chatalova, 2016).

Finance industry headlines have highlighted that banks have been suffering from operational inadequacies (Ilin, 2015). Bank leaders should take a proactive approach to the analysis of operational risks to determine if there are early indicators of failure within the processes that exist within their organizational system (Liu, 2015). Although financial regulations provide the requirements that banks must adhere to (Ilin, 2015), there is no prescribed method to accomplish adherence. Leaders of an organization determine how to implement processes to meet the requirements of the regulators and the expectations of consumers (Balakrishnan, 2016; Murphy, 2015). A gap has been identified related to bank employees' understanding of what is needed in order to prompt exemplary performance from the system (Ilin, 2015). An exploration of the lived experiences of those within the system may assist in gaining insight related to real-world conditions that exist within the organizational system.

Innovation leads to new paths to a desired final state (Brown, 2015). Hard money mortgages have been used to illustrate how different products can lead to similar

outcomes—in this case, a funded real estate project (Brown, 2015). Due to a lack of regulation over hard money mortgages, the utilization of this funding type is a different path from utilizing a traditional lender to complete a real estate project (Brown, 2015). Similarly, the development of innovative financial technology offers alternative paths to common banking goals, such as securing financing (Jagtiani & Lemieux, 2017). The use of nontraditional methods of obtaining information or providing financial services may be of significant value to consumers (Jagtiani & Lemieux, 2017). Nontraditional methods of obtaining services that have been created for consumers, such as the utilization of fintech organizations, constitute one of the foundational aspects of the general problem from which this study was derived.

Systems thinking and general systems theory were relevant to this study because the use of both the concept and the theory permitted the exploration of the participants' lived experiences in a holistic manner. The lived experiences of the participants provided insight into their perception of the phenomenon being studied: the implementation of innovative financial technologies. The participants' experiences provided insight into the components of the systems in which the innovative technology was implemented, as well as the environment within which the systems operated.

Organizational Innovation

Organizational change is a byproduct of innovation. Innovation has different definitions based on the field of study (Carr et al., 2016). An overarching definition of innovation is a process in which ideas are generated within a system in order to improve upon something existing or to create something new (Baskaran & Mehta, 2016;

Pettigrew, 2009). In an environment of change, previous experiences are utilized to inform future paths of innovation in addition to the input of employees within an organization, which typically includes diverse backgrounds (Baskaran & Mehta, 2016; Padilha & Gomes, 2016; Schuchmann & Seufert, 2015). Innovation has been described as a nonprogrammed decision made within an organizational system, meaning a decision that is made that falls outside of the standard processes (Pettigrew, 2009). Nonprogrammed decisions can provide insight into alternative ways to operate and may provide options that satisfy consumer needs (Jeleva et al., 2017).

The motivation for change within an organization impacts how innovation manifests (Glor, 2001, 2015). Competition stimulates the demand for innovation (Senge, 2010). The more dynamic the product offerings by an organization are, the more likely it is that customers will be satisfied with its products (Antoshchenkova & Bykadorov, 2017). In the financial services industry, customers are interested in products that are easy to use and that make things more convenient (Schöler et al., 2014). As a result, financial products and services are constantly evolving (Nejad, 2016; Schuchmann & Seufert, 2015).

The theory of organizational innovation and change was developed using the grounded theory approach (Glor, 2015). It includes three levels of change related to innovation: changes in process, changes in organizational infrastructure, and changes in organizational goals (Glor, 2015). These levels of change are consistent with definitions of innovation, both overarching and specific to decision making in an organizational system (Baskaran & Mehta, 2016; Jeleva et al., 2017; Pettigrew, 2009). Changes in

organizational infrastructure and organizational goals would include items that differentiate the organization from competitors (Glor, 2015). Although Glor's (2015) theory of organizational innovation and change is relatively new, with little application in current research, the concepts are relevant to this study.

Researchers who study the impact of innovation on organizations face several challenges, including isolating the effects of innovation from other factors and figuring out how to identify the effects of innovation on organizations (Glor & Ewart, 2016; Glor & Rivera, 2016). Studies related to the impacts of laws and regulations on innovation are still in the developmental stages (Glor & Rivera, 2016; Sapra et al., 2014). This is especially relevant to the banking industry due to the highly regulated environment (Murphy, 2015). Researching the impact of innovation on people is important to studying the impact of innovation on organizations (Glor, 2014). The participants' lived experiences provided insight into the impacts of innovation on the individuals responsible for implementing it.

The systems of innovation (SI) approach includes all important factors related to innovation and the development or use thereof (Edquist, 2006). Collaboration is an integral aspect of innovation, including collaboration within an organization and between organizations (Edquist, 2006; Ferdowsian, 2016). The SI approach also emphasizes the importance of utilizing existing knowledge to generate new knowledge (Edquist, 2006). Much like systems thinking, innovation systems thinking is an inclusive view of innovation that involves considering multiple factors that impact innovation, such as economy or public policy (Edquist, 2006). This approach has been used broadly in

research, and similarly to systems thinking, it can be applied to various fields and scenarios (Jenson et al., 2016).

Through the lens of the SI approach, innovation is not a remote process (Edquist, 2006). Innovation is prompted through interactions and complex relationships between organizations, including competitive relationships (Edquist, 2006; Senge, 2010). The organization in which innovation takes place is a strong influence on the innovation process (Edquist, 2006).

Although the SI approach is not a formal theory, the concepts that are present within the framework are relevant to this study and have been utilized for innovation research in the past (Edquist, 2006; Jenson et al., 2016; Muñoz & Encinar, 2014). Through the use of the SI approach, the efficiency of innovation has been connected to taking place when an agent's goals and actions lead to the intended final result (Muñoz & Encinar, 2014). This connection leads to a self-transforming process, which is at the basis of complex systems and innovation (Muñoz & Encinar, 2014; von Bertalanffy, 1968).

The quality of the institution is a factor for the efficiency of resulting innovation (Fischer & Tello-Gamarra, 2017). In an organizational scenario, the quality of an institution could be inclusive of the research and development expenditures, the resources within the system, or the organizational environment (Edquist, 2006; Fischer & Tello-Gamarra, 2017; Muñoz & Encinar, 2014). Investment may not lead to successful innovation, so consideration other aspects of the system in which innovation generation takes place is important to support efficient and effective innovation efforts (Edquist, 2006; Jenson et al., 2016).

Sensemaking

Sensemaking is a retroactive assessment of reality to make sense of things that have occurred previously (Weick, 1993). Sensemaking is the method in which people interpret their experiences (Weick, 1995). Sensemaking also assists the transformation of subjective experiences into a more tangible form (Weick, 1995). Humans seek to make sense of scenarios that have already taken place by viewing a world in which the action has already happened (Weick, 1995). People create stories of their experiences based on the retrospective process, progressively clarifying their experiences in reverse order using the outcome of the situation (Weick, 1995). This cognitive process can be beneficial in an organizational perspective, since the organizational system is comprised of employees that experience things differently (Senge et al., 1999; Teece & Leih, 2016).

Sensemaking is related to the interaction between events or actions and the interpretations thereof (Weick et al., 2005). Action is slightly ahead of cognition; therefore, a person's understanding of an action takes place later (Weick et al., 2005). Events and actions can be interpreted by utilizing different levels of sensemaking (Weick, 1995). When considering the types of sensemaking as a pyramid, there are three levels of sensemaking that are above the foundational intrasubjective, or individual, level of sensemaking (Weick, 1995). Intersubjectivity is when individual thoughts and feelings are transformed into a dialog with another person in a social interaction (Weick, 1995). Generic subjectivity is the organizational level of sensemaking, which considers work roles, relational roles, and social networks (Weick, 1995). The highest level of

sensemaking is extra-subjective, which is related to the cultural level of analysis (Weick, 1995).

The utilization of sensemaking to analyze organizational actions provides an opportunity to incorporate meaning into organizational theory (Weick et al., 2005). When discussing experiences related to a phenomenon within an organization, individuals may move continuously between intersubjectivity and generic subjectivity (Weick, 1995). Intersubjectivity is evident when discussing exchanges, communication, and interactions with other participants of the organizational system (Weick, 1995). Generic subjectivity is evident when referencing organizational culture, roles, and rules within the organizational system (Weick, 1995). Day-to-day actions, such as the responsibilities of a job role within an organization, are reconstructed intersubjectively by people within a social structure (Weick, 1995). The repetition of day-to-day actions by people within an organization then increases generic subjectivity, since common actions become a generic construct, mutually defined and commonly understood (Weick, 1995). Sensemaking should be used by leaders within an organizational system to get an understanding of what is experienced by the employees so that the system can quickly recover during times of deep uncertainty (Teece & Leih, 2016; Teece et al., 2016; Termeer & van den Brink, 2013).

Business organizations are impacted by complex social issues that arise, especially when considering how globalization has added complexity to conducting business in locations with diverse cultures and customs (Golob et al., 2014). The world is also interconnected by the utilization of information technology, connecting networks

with one another in short periods of time, which puts significant pressure on organizations (Golob et al., 2014). Sensemaking can be used to achieve a shared culture and a shared understanding of corporate social responsibility (Golob et al., 2014; Teece & Leih, 2016). By cooperating with others and recognizing the interdependencies within the organizational system, while also utilizing sensemaking, organizational leaders can learn from previous experiences and prepare for future scenarios that may arise (Golob et al., 2014; Teece & Leih, 2016; Teece et al., 2016). Taking a collaborative approach to learn from the actions of others and their own actions, organizational leaders can utilize sensemaking to identify lessons learned from previous scenarios and prospectively work with stakeholders to come up with innovative solutions for specific needs (Golob et al., 2014).

The background, or context, of an individual actor impacts sensemaking in an organizational change scenario (Lockett et al., 2014). Members of an organization make sense of their organizational identities by comparing their personal experiences with the organizational structure and image (Sirkwoo, 2015). This perspective embraces an individual's unique experiences because individuals utilize their schemata, the cognitive frameworks in which data related to prior experiences are stored, to make sense of complex changes (Lockett et al., 2014). During a financial process, such as small business lending, a link has been found between credit risk and lenders' sensemaking related to loan decisions (Hartt & Jones, 2013). Making a loan decision requires a level of prospective sensemaking, which is based on past experiences when considering credit requirements and forecasting based on the outcomes that are most likely (Hartt & Jones,

2013). A loan decision is a point-in-time perspective, which is impacted by the actor's prospective sensemaking at the time the decision is made (Hartt & Jones, 2013). The experiences of people within an organizational system can alter sensemaking processes, which in turn can change the strategy of decision making in the future (Hartt & Jones, 2013; Lockett et al., 2014; Sirkwoo, 2015).

Sensemaking is relevant to this study because the theory is about discovery, creation, and interpretation (Weick, 1995). Sensemaking is used by people to process their lived experiences and is also utilized to analyze future actions or decisions (Hartt & Jones, 2013; Weick, 1995). Additionally, sensemaking has been associated with phenomenological studies since the process of interpreting responses and pattern identification is also a part of sensemaking (Brown et al., 2015; Weick, 1995).

Literature Review

Within the upcoming sections of this chapter, I provided an explanation of the status of identified factors that contributed to the most recent financial crisis and the state of regulation in the financial services industry. Next, the nature of financial innovation is described, including examples of trending innovation in the financial services industry. Consumer expectations related to financial services are then covered, along with a description of interactions between fintechs and banks. Through the description of the above areas, I provided information related to gaps identified in current research, as supported by the existing body of knowledge.

Factors That Contributed to the Financial Crisis

Research has been done to identify contributing factors to the most recent financial crisis in 2008, including looking at past situations to identify any similarities (Bexley, 2014; Hausman & Johnston, 2014; Nelson & Katzenstein, 2014; Nisha, 2016). The explanation of the cause of a financial crisis, based on hundreds of years of observation, is monetary excess leading to a boom and the crisis is the inevitable bust (Nisha, 2016). There is consensus among several researchers that the most recent economic crisis has several root causes (Bexley, 2014; Hausman & Johnston, 2014; Nelson & Katzenstein, 2014; Nisha, 2016).

Deregulation was a contributing factor to decisions made that contributed to the economic downfall (Bexley, 2014; Shulman, 2016). To increase homeownership among lower income households, the Community Reinvestment Act (CRA) was deregulated in order to adopt an affordable housing mission and lending standards were reduced in order to support the mission (Nisha, 2016). The increase in home ownership caused a boom in the U.S. housing market and interest rates were lowered due to the potential return, even with the consideration of default (Nisha, 2016). Deregulation also led to the removal of branch restrictions, allowing affiliations between banks and nonbank financial institutions (Nisha, 2016). Fixed mortgage rates were replaced by diverse mortgages and interest only loans, which intensified competition and allowed for increased offerings of subprime loans (Bexley, 2014; Nelson & Katzenstein, 2014; Nisha, 2016).

Deregulation induced consolidation within the financial services industry which led to increased competition between banks and other financial institutions within the

financial sector (Nisha, 2016). Consolidation also led to the creation of large complex financial institutions (LCFIs), which were allowed by the Bank for International Settlements to assess their own risk and determine their own capital requirements (Bexley, 2014; Nisha, 2016). LCFIs achieved a dominant position in financial markets by underwriting or investing in the subprime market (Nisha, 2016). Lack of regulation prompted the neglect of risk assessments and predatory lending for higher returns (Nelson & Katzenstein, 2014; Nisha, 2016).

Financial innovation contributed to the creation of new technology and securities (Nisha, 2016). Technological advancements accelerated the loan approval process and expanded loan origination by the development of automated underwriting systems (Nisha, 2016). The automated system allowed for simplified documentation requirements which increased subprime lending (Nisha, 2016). The introduction of securitization allowed risky loans to be removed from the books by selling them to investors as an investment product (Nisha, 2016). As a result, share prices may not have been reflective of additional risks being taken (Bowen & Khan, 2014). The subprime market went into crises when immense defaults and large losses occurred due to increased interest rates and declining property values (Nisha, 2016). Undercapitalization by lenders led to the spread of the financial system crisis throughout the economy, turning it into a broader economic crisis (Brownlees & Engle, 2017; Shulman, 2016).

A common aspect of financial crises that have taken place are credit cycling by banks (Mouatt, 2015; Rötheli, 2010). Credit cycling takes place when banks are more likely to lend during times of perceived market increase or stability, but lend less when

the market is riskier, such as during times of recession (Rötheli, 2010). Bank lending becomes increasingly risky the longer the market upswing lasts (Nisha, 2016; Rötheli, 2010). When the lending rates continue to decrease, and the risks of default become reality, the reaction is to decrease lending demonstrating the boom-bust patterns (Rötheli, 2010). Financial innovation can contribute to financial stability in the future, but to ensure that financial innovation does not instead create additional risk, innovation should take place under the scrutiny of regulators (Crabb, 2017; Rötheli, 2010).

Regulation of the Financial Services Industry

Regulation over the financial services industry is complex in nature. Banks are subject to regulatory requirements from FDIC, OCC, and FRB (Bexley, 2014; Murphy, 2015). In addition, there are numerous legislative changes that impose additional regulations and requirements (Bexley, 2014; Murphy, 2015). There are also state level laws and requirements that banks must adhere to in addition to regulatory agencies and legislation (Bexley, 2014; Murphy, 2015). Conversely, fintech corporations are subject to state level regulation, which does not include the rigor and complexity from the multiple regulatory agencies and legislation described above (CSBS, 2017).

In response to the financial crisis in 2008, there has been a call for increased regulation over financial banking institutions (Schöler et al., 2014). The increased regulation was intended to reduce risks and reduce the likelihood of a repeat of the financial crisis (Schöler et al., 2014). One example of legislation that was implemented in response to the financial crisis is the Dodd-Frank Act. The Dodd-Frank Act was the most comprehensive change of U.S. financial regulation since the Great Depression (Batkins &

Brannon, 2013). Dodd-Frank overhauled bank oversight with the creation of federal agencies with regulatory authority over banks, which produced 120 additional regulations by 2013 (Batkins & Brannon, 2013).

The passing of the Dodd-Frank Act has been described as an overreaction by Congress (Bexley, 2014). The provisions within the act set burdens on financial institutions that impacted the global markets and was so strict that the cost to implement was extremely expensive (Bexley, 2014). In 2013, the societal cost of compliance to Dodd-Frank was approximately $15.4 billion and increasing, with over 58 million hours invested by financial services employees to be paid, which is not included in the approximate cost of compliance (Batkins & Brannon, 2013). The estimated cost per hour to comply with Dodd-Frank was $265 per hour (Batkins & Brannon, 2013). To illustrate the cost of compliance to regulatory requirements, both legislative and regulatory, the cost of adherence to regulation for only six large U.S. banks equal approximately $11.7 billion each (Federal Financial Analytics, 2014).

The regulation framework of the banking sector should be revisited periodically in order to ensure the banking sector has an appropriate level of stability (Pop, 2016). In line with this perspective, bank regulatory agencies were reorganized after the recession in an effort to increase stability of the financial market (Batkins & Brannon, 2013; Van Loo, 2018). Prior to the financial crisis, regulatory agencies served a dual purpose of ensuring stability and consumer protection (Van Loo, 2018). Due to the apparent lack of consumer protection, as evidenced by the subprime mortgage crisis, the Consumer Financial Protection Bureau (CFPB) was launched to take over consumer protection

activities (Van Loo, 2018). The three agencies that lead regulation for banks related to stability, safety, and soundness are the FRB, FDIC, and OCC (Van Loo, 2018). As a result of the regulatory environment for banks, regulatory agencies must simultaneously pursue the preservation of financial system stability (Van Loo, 2018).

Fintech corporations are governed by the regulations of state level banking departments (CSBS, 2017). Fintech companies offering virtual currencies are also subject to state licensure and supervision (Bahlke et al., 2016). Since fintech corporations are not bank entities, they are not subject to the same level of regulation as banks (Frame & White, 2004; Goeller & Shureen, 2016; Schneider et al., 2016). If fintech activities extend beyond the scope of state legislation, there could be a significant issue as a result (Knight, 2017). The reduced rigor over fintech organizations leads to additional risks and can potentially lead to financial crime (Crabb, 2017).

The rapid changes related to fintech are straining the existing regulatory structure (Knight, 2017). The OCC extended an optional charter for fintech companies; however, state legislators have spoken up against the OCC for acting beyond their scope (Crabb, 2017). State regulators are concerned with the impacts on the residents of their state, while the OCC is concerned with the lack of oversight over companies that conduct bank-like activities (Crabb, 2017). Fintech companies seek to create efficiencies and customer friendly technologies but are doing so without the compliance requirements to which banks are required to adhere (Crabb, 2017).

Financial Innovation

Financial innovation refers to innovation that takes place in the financial services industry (Nejad, 2016). The innovation of technology is a subset of financial innovation in the financial services industry (Gomber et al., 2018). The evidence of financial innovation over the years exists within online payment systems, credit cards, and automated teller machines (Frame & White, 2004; Nejad, 2016). Economic growth is partly driven by new products, services, and business models (Nejad, 2016). New models, such as the financial innovation described above, have increased business volumes domestically and internationally (Nejad, 2016).

The advancements in financial innovation over the years have revolutionized the methods in which financial transactions take place (Nejad, 2016). Due to the advances in technology in the last fifty years, the amount of new financial services has increased over time (Nejad, 2016; Nejad & Kabadayi, 2016). A gap has been identified related to investigation into interfirm resources that support or enhance innovation (Chou, Chen, & Liu, 2017). Due to significant changes in the financial services environment over time, researchers should focus additional research on firm strategies and firm employees, including impacts of innovation (Chou et al., 2017; Komulainen et al., 2018; Nejad, 2016).

Research related to organizational innovation has not followed the same level of continual increase as has been seen in the implementation of financial innovation since the new millennium (Bujidos-Casado et al., 2017; Komulainen et al., 2018; Nejad, 2016). The results of a study, which analyzed 121 articles related to financial innovation

published between 1990 and 2015 evidenced there was a significant increase in the number of articles published related to financial innovation after 2000, with a notable decrease after 2009 (Nejad, 2016). Of the 121 articles analyzed, there were 68 related to consumer adoption or resistance, eight related to consumers more generally, 14 related to innovation design and development, 11 related to performance effects of innovation, seven related to marketing strategies for financial innovations, and 13 related to the firm side of innovation (Nejad, 2016). There is evidence of more studies within that timeframe that are focused on the consumer, rather than the firm aspect of innovation (Nejad, 2016; Wonglimpiyarat, 2017b). In addition, there was a relatively low number of studies using data from North America (n=25), with the majority coming from Europe (n=54) (Nejad, 2016).

Process of Innovation

Innovation has been described as the implementation of creative concepts or ideas (Cooper, 2017; Jorgenson, 2018). As a result, creativity has been referred to as a foundational step of innovation (Anderson et al., 2014). Due to increased competition in markets and advancement of technology, there has been increased scholarly attention to creativity and innovation in the past thirty years (Amabile & Pratt, 2016; Anderson et al., 2014). Upon review of existing innovation research, there are three notable areas of focus related to the process of innovation: customer needs, employee or company performance, and project management.

Customer Needs

Organizations that consider current and future customer needs tend to develop products and services that aid in the creation of competitive advantage (Wang et al., 2017). Competition is prevalent in markets in which product offerings are the same or similar, such as the financial services industry (Mahmoud et al., 2016; Yaw Obeng & Boachie, 2018). Concentrated markets, such as the financial services industry, respond to customer needs by utilizing both pricing and nonprice dimensions, such as technological advances (He, 2015; Troilo et al., 2017). The state of regulation within the financial services industry has been found to lead to lending at lower price points (Chu, 2018). Lower pricing has also led to diversification of assets due to cross-selling of products to new and existing customer bases (Chu, 2018). Diversification is also taking place within the banking industry in a more geographical sense (Goetz, 2018). In order to reach more customers, banks are exploring geographical expansion through the utilization of technological advancements that allow customer interactions within areas in which a physical branch presence does not exist (Chu, 2018; Goetz, 2018).

Market acceptance of technological innovation in the banking industry is largely contingent upon the successful implementation of a product or service customers find useful (Patel & Haon, 2014). Consumers of the product or service and their expectations shape current and future innovation (Saldanha et al., 2017). Past technological advancements, such as internet banking, have since become a widely utilized and potentially even expected by customers (Harris et al., 2016; Scott et al., 2017; Takieddine & Sun, 2015). As a result, customer demands and competition within the market spur the

need for financial institutions to be innovative in their service offerings to maintain a competitive advantage (Mahmoud et al., 2016). The speed in which the innovative technology is introduced to the market is important as well (Callaway & Jagani, 2015; Cooper, 2017). Competitive advantage may be negatively impacted if another organization successfully introduces a similar innovative technology or service to the market first (Callaway & Jagani, 2015).

Employee or Company Performance

There is a demand for investigation of how organizations can encourage a high level of operational performance as well as innovation (Leyer et al., 2017). This is an important concept because organizations need to maintain their daily operational goals in addition to having the capacity to support the development of innovation (Callaway & Jagani, 2015). Researchers have suggested that the shared vision of the organization should be geared toward structured efficiency, while also allowing space for the improvisation that supports innovation (Callaway & Jagani, 2015; Wang et al., 2017).

Bank leaders pursue operational and cost efficiencies in order to increase productivity and increase profits (Curi & Lozano-Vivas, 2015). Innovation can assist with increasing both productivity and profits by aiding in the improvement of product delivery methods (Yaw Obeng & Boachie, 2018). In concentrated markets, innovation has included the utilization of existing technologies in different ways, such as digital expansion to increase geographic presence beyond that of physical branches (Callaway & Jagani, 2015; Chu, 2018; Goetz, 2018). The expansion to new markets can increase profits and may impact productivity within an organization (Chu, 2018). A positive

relationship has been found between the output of innovation and employee productivity in the environments in which employees are trained and take the lead on creative initiatives (Leyer et al., 2017; Muñoz & Encinar, 2014; Yaw Obeng & Boachie, 2018).

There is evidence that in rapidly changing environments, adoptions by employees may have improved quality if they are informed and aligned with the goals associated with change (Leyer et al., 2017; Muñoz & Encinar, 2014). As a result, organizations should utilize a process-oriented organization with a focus on process improvement (Leyer et al., 2017). Leaders of a process-oriented organization should have regular meetings with employees to outline processes and share knowledge, which is positively related to performance and innovation (Leyer et al., 2017). This concept is supported by organizational change frameworks, which explain the importance of the role of employees during innovation within an organizational system (Glor, 2015; Senge, 2010). Idea generation and innovation seem to be related to employee engagement (Leyer et al., 2017; Muñoz & Encinar, 2014; Senge, 2010).

Project Management

Financial services companies tend to take the approach of projects related to research and development of innovation (Martovoy et al., 2015). The success of innovation development from a project management perspective is dependent upon the employees participating in the initiative (Brandon & Guimaraes, 2016). By utilizing a project approach, as opposed to a research and development department, a diverse population of employees from different departments within the organization participate in projects (Leyer et al., 2017; Martovoy et al., 2015; Sartori et al., 2013). Strong project

leadership and the motivation for change is important during the beginning phases of the project to set the tone and pace for the initiative (Brandon & Guimaraes, 2016). It is also important that the project include participants that are a part of the resulting process, to ensure impacted employees are engaged in the project decisions (Brandon & Guimaraes, 2016). The utilization of only impacted management in a project can lead to situations of managerial overconfidence due to relying on current market acceptance rather than considering differing customer perceptions (Aspara et al., 2018).

Firms have a dual interest for investing in research and development, which includes new knowledge generated by employees and the manner in which the new knowledge can be used in the future (Babutsidze & Iacopetta, 2016; Brandon & Guimaraes, 2016). The newly generated knowledge directly impacts earnings and can also increase the usefulness of publicly available knowledge (Babutsidze & Iacopetta, 2016). In this feedback loop, higher research and development investment can increase the chance of successful innovation thus increasing profits, which can feed into additional investment funds (Babutsidze & Iacopetta, 2016).

People and Innovation

As evidenced by the previous subsections, innovation has a direct relation to human capital within an organization (Sartori et al., 2013). Within the financial services industry, the term financial innovation encompasses the four forms of innovation: product, process, marketing, and organizational (Sartori et al., 2013). These innovation types require action upon new ideas from people in order to become realized (Leyer et al., 2017; Sartori et al., 2013). Within an organization, there is a collaborative effort

between people and teams with unique experience and expertise to pursue innovation (Leyer et al., 2017; Sartori et al., 2013). Research related to the contribution of human capital to innovation is elusive due to a gap in acceptable methodology to aggregate human capital across individuals (Babutsidze & Iacopetta, 2016).

Within the financial services industry, people within the bank and within bank groups are of highest importance to the implementation of innovation (Martovoy et al., 2015). Studies support that employee collaboration during times of change, such as implementation of innovation, is important to the success of the implementation (Leyer et al., 2017; Martovoy et al., 2015; Sartori et al., 2013). This perspective is important to the financial services industry as a whole because it supports the need to research innovation implementation qualitatively to explore to the experiences of those involved (Martovoy et al., 2015; Nejad, 2016). Although previous research supports that the role of the individual is important the development and implementation of innovation, there is little knowledge of how the individual experiences innovation (Martovoy et al., 2015; Nejad, 2016). The focus of the employee role in innovation is more related the sharing and combining of knowledge of those that are involved in the initiative (Jorgenson, 2018; Wang et al., 2017).

People tend to focus on things in which they have an incentive to accomplish (Cooper, 2011, 2017). Cooper (2017) suggested recognition or rewards for new ideas, encouraging exploratory projects, and proactive idea generation system in which ideas can be submitted and selected for use. Companies can accomplish significant benefits by exploring new sources of knowledge, such as the feedback and ideas of employees that

manage the day-to-day functions (Theeke et al., 2018). The ideas of employees and the implementation thereof are a source of unique and distinct competitive advantage for an organization (Anderson et al., 2014).

Innovation in the Financial Services Industry

Despite the recent economic issues, government agencies, academics, business leaders, and others independently have agreed that innovation can fuel a strong economy (Glor & Ewart, 2016; Hausman & Johnston, 2014; Kaal & Calcaterra, 2017). Innovation has a positive relation to job creation, increased profitability due to consumer spending, and reduced competition (Hausman & Johnston, 2014). Increased economic pressure tends to fuel creative solutions, leading to an increase in innovation (Hausman & Johnston, 2014). However, innovation in the financial services industry is different from those in other sectors, such as manufacturing (Schöler et al., 2014). Financial innovation is complex due to the interconnectedness of the financial system (Schöler et al., 2014). There are also regulatory constraints within the financial services industry that do not exist elsewhere (Kursh & Gold, 2016; Schöler et al., 2014).

There has been an increase in technological advancements over the last several decades, which has had a direct impact on financial innovation (Lin et al., 2015). Previously largely used methods of accessing funds are used less by consumers. Although there are initiatives to digitize checks by utilizing check images, there is a downward trend in the use of checks by consumers (Neyer, 2017). In addition, high costs associated with money transfers, including cross-border payments, has led to consumers

looking for innovative and cost-effective options (Lall & Vári-Kovács, 2017; Neyer, 2017).

In response to consumer expectations, online banking systems provided by traditional banks are shifting into innovative services (Ryu, 2018). IT-enabled financial innovation has penetrated many sectors of finance (Lin et al., 2015). Electronic commerce (e-commerce) has evolved, mobile communications have significantly improved, and social networks are more robust (Lin et al., 2015). There has been considerable progress executing real-time gross settlement processes and image-based or automated check clearing processes, with over 100 countries implementing similar systems (Balakrishnan, 2016). Financial services typically provided by banking institutions are now largely digitized and technology continues to evolve (Lin et al., 2015; Ryu, 2018). Several examples of innovation in the financial services industry include new payment systems, virtual currency, cloud computing, and internet of things.

Payment Systems

The term payment system includes the processes of payment initiation through the clearing and settlement of payment transactions (Chiu, 2017). In circumstances in which cash payments are not being used, electronic payment systems are utilized (Neyer, 2017). There are limitations to the traditional methods of electronic money transfers. Wire transfer payments can be costly and are not real-time transfers (Neyer, 2017). Automated Clearing House (ACH) transactions can be made same-day, but they are not near real-time transactions (Lall & Vári-Kovács, 2017). There may also be manual back end processes supporting the seemingly same-day transactions (Salmony, 2017). In addition,

card technology is being updated utilizing tokenization, but there are limitations related to data breaches despite the tremendous investments in security updates (Broom, 2015; Neyer, 2017). In the changing area of payment systems, ensuring cost effectiveness and meeting consumer expectations is important to maintain a competitive advantage (Broom, 2015; Döderlein, 2018; Neyer, 2017).

Technological advancements in the financial services industry are prompting the development of innovation in payment systems by banks and other companies that have entered the industry, such as fintech organizations, online payment services, and social media companies (Broom, 2015; Chiu, 2017; Ledford, 2015; Van Loo, 2018). Although there has been great focus on improving speed of payment systems, improvement upon existing payment systems is just as important (Ledford, 2015). The safety of the payment system should not be compromised in order to increase the speed of the transaction (Ledford, 2015; Lewis et al., 2017). On the contrary, the long-term success of the payment technology is contingent upon the security and trustworthiness of the technology (Kursh & Gold, 2016).

The existing retail payment system has several limitations. Some technologies continue to be used even though there are high associated costs, such as checks (Lall & Vári-Kovács, 2017; Neyer, 2017). It has been shared that 10% of Bank of America's costs are associated with moving physical monies and checks through the financial system (Neyer, 2017). There are also high costs associated with updating legacy accounting systems that banks have in place (Balakrishnan, 2016; Broom, 2015; Lall & Vári-Kovács, 2017). Integration of newer systems with legacy accounting system can

also prove to be difficult (Balakrishnan, 2016). Despite the perceived challenges, leaders of financial institutions should seek to make improvements that allow them to remain competitive in the industry (Döderlein, 2018; Neyer, 2017).

The banking industry is the origin of finance and payments technology (Papadopoulos, 2015). In traditional payment systems, there are centralized tables that are master copies of data stored for rapid retrieval utilizing a relational methodology (Lewis et al., 2017). These tables can be searched and updated by users, but are managed by a central authority (Chiu, 2017; Lewis et al., 2017). In this traditional system, there is an intermediary performing validation activities related to parties involved, availability of funds, any ledger adjustments, and final settlement activities (Berentsen & Schär, 2018a; Chiu, 2017). This intermediary is typically a bank or government entity in a traditional payment system (Lewis et al., 2017). If there are multiple instances of transaction data, a reconcilement must be done in order to ensure the accuracy of the information (Lewis et al., 2017). There is a level of trust required in a traditional payment system due to the reliance on the financial institution to manage the tracking of transactions centrally (Berentsen & Schär, 2018a).

The blockchain methodology in payment systems is fundamentally different from the traditional approach. Blockchain technology is based on distributed ledger technology, in which each user in the network has its own stored copy of the data (Chiu, 2017; Neyer & Geva, 2017). A smart contract is embedded in the blockchain platform in the format of conditional logic (de Ridder et al., 2017). The execution of the conditions indicates successful execution of the smart contract (de Ridder et al., 2017). Once a

transaction takes place, there is a process called consensus which takes place near real-time to reconcile the data and confirm the transaction (Kursh & Gold, 2016; Lewis et al., 2017). The transaction is then added to the chain once digital signatures are obtained via a cryptographic link (Lewis et al., 2017). Two cryptographic keys are generated for the transaction to ensure confidentiality and authority, one public and one private; however, both must be present to decrypt the data (Kursh & Gold, 2016). If there were a breach and a transaction were unencrypted, the fraudulent transaction could not be re-encrypted, and it would be rejected by all parties (Berentsen & Schär, 2018a). In addition, data mining processes take place on a continual basis to check transactions for accurate chronological sequencing, which diminishes the need for periodic financial audits (Kursh & Gold, 2016).

Access control is integral to electronic payment systems as the first layer of defense against inappropriate access (Ledford, 2015). Access is managed in a traditional payment system to ensure the appropriate parties have central management access and to allow network users to query existing data (Chiu, 2017; Lewis et al., 2017). In a private blockchain network, access management is also in place to ensure only those with the appropriate entitlements have access to the network (Kursh & Gold, 2016; Lewis et al., 2017; Neyer & Geva, 2017). Access management also aids in ensuring transactions are only visible to authorized parties, thus increasing security and privacy (Lewis et al., 2017).

Cross-Border Transactions

The Society for Worldwide Interbank Financial Telecommunication (SWIFT) is a Belgian company established in the 1970s to aid in the implementation of protocols for cross-border transactions or global payments (Bátiz-Lazo, 2015; Ripoll Servent & MacKenzie, 2011; Scott & Zachariadis, 2014). Cross-border transactions have a higher level of complexity because there is no international settlement institution in place (Rosner & Kang, 2016). In response to this gap, the initial goal of SWIFT was to improve the manner in which financial institutions connected to one another for cross-border payments (Bátiz-Lazo, 2015). Originally, banks use paper forms or checks for cross-border transfers, which carried a considerable cost and the length of time associated with clearing was extended as a result of the complexity of the transaction (Scott & Zachariadis, 2012; Scott & Zachariadis, 2014). In contrast, SWIFT utilization allows for faster transmission of financial transaction data between member institutions (Bátiz-Lazo, 2015).

SWIFT functionality is different from that of a financial institution's internal payment system (Bátiz-Lazo, 2015). More specifically, SWIFT does not hold funds, operate as a clearing house, nor does it conduct settlement activities (Bátiz-Lazo, 2015; Scott & Zachariadis, 2014). Instead, SWIFT stores and forwards financial information between two financial institutions in a secure and standardized fashion, categorizing the messages based on financial product and relationship of those participating in the transaction (Bátiz-Lazo, 2015; Batten & Szilagyi, 2016; Scott & Zachariadis, 2012; Scott & Zachariadis, 2014). Banks and member financial institutions remain responsible for

their internal financial transaction clearing processes (Gilderdale, 2017; Halpern & Edelman, 2017; Scott & Zachariadis, 2014).

The economic crisis in 2008 increased the emphasis on cash management, making multi-bank connectivity an increasingly important concept (Rebel, 2011). Further, the importance of standardization and security with financial transactions became an increasing priority for regulators (Halpern & Edelman, 2017). As the financial services industry increased in complexity, SWIFT processes continued evolve as well (Scott & Zachariadis, 2014). In response to increasing security concerns, SWIFT implemented a Customer Security Control Framework that requires members to comply with the protocols, which includes protection of SWIFT related equipment and credential, in addition to having an incident response plan in place (Gilderdale, 2017; Steffee, 2017). Members are then required to certify or attest to their adherence to the SWIFT protocols and standards (Scott & Zachariadis, 2014; Steffee, 2017).

SWIFT now serves over 200 countries and over 11,000 financial institutions (Scott & Zachariadis, 2014; Steffee, 2017). More than 3 billion messages are sent via SWIFT on an annual basis (Scott & Zachariadis, 2014). SWIFT is the catalyst for approximately 80% of international data transfer of financial transactional data (Ripoll Servent & MacKenzie, 2011). As a result, innovation activities have recently begun to take place related to new and more effective ways to utilize the SWIFT network (Rosner & Kang, 2016; Treacher, 2018).

Virtual Currency

Although the most common currency is fiat currency, the period of economic downfall has contributed to the development of virtual currency, also known as cryptocurrency (Chiu, 2017; Lewis et al., 2017; Wandhöfer, 2017). The development of Bitcoin and the supporting blockchain technology took place in 2009, after the financial crisis (Berentsen & Schär, 2018b; Wandhöfer, 2017). There are now numerous other cryptocurrencies in addition to Bitcoin, such as Ether and Dash coins (Wandhöfer, 2017).

Physical cash is a bearer instrument; therefore, records are not kept for physical monies (Berentsen & Schär, 2018b). As a result, there is no involvement of a third party when the exchange of physical cash takes place (Berentsen & Schär, 2018a, 2018b). When physical money is deposited into a bank, it becomes a financial transaction managed virtually, which is backed by the deposited cash (Berentsen & Schär, 2018b). In the banking system, the deposits are utilized to support lending to others (Berentsen & Schär, 2018b; Tsang et al., 2017). Cash outside of the lending system is anonymous in nature and does not require an intermediary when exchanging cash for services or goods (Berentsen & Schär, 2018a; Broom, 2015).

Virtual currencies, such as Bitcoin, are managed in a decentralized model in which there is no authority and no management of a centralized system in the manner banks employ (Berentsen & Schär, 2018b). Virtual currency, or cryptocurrency, operates more like cash in that there is no intermediary in the transaction (Wandhöfer, 2017). Cryptocurrency is becoming a more commonly accepted form of payment (Lewis et al., 2017). Even so, merchants who accept it tend to convert virtual currency to their preferred fiat money post transaction (Wandhöfer, 2017).

There are mixed opinions when it relates to the benefits and risks associated with cryptocurrency. Although there is a level of privacy embedded in the blockchain processes supporting virtual currency, there are limitations to the functionality (Lewis et al., 2017; Tracy, 2018). Transactions utilizing cryptocurrency cannot be reversed due to the blockchain functionality; one would have to issue a separate transaction to correct any errors (Lewis et al., 2017). There are also challenges related to consumer protections and fraud related risks, such as money laundering (Tracy, 2018). Although there are controls built into the functionality, such as the public and private cryptographic keys to deter fraudulent transaction, there are multiple entry points in a decentralized network open to cyber-attack (Chiu, 2017; Kursh & Gold, 2016). In addition, there are fees associated with cryptocurrency transactions similar to those associated with bank money movement services (Neyer & Geva, 2017).

Although previously virtual currency lacked regulation, there have been adjustments to the regulation in the past several years (Kursh & Gold, 2016). As of 2015, virtual currencies are considered commodities and are subject to a higher level of regulation (Bahlke et al., 2016). In addition, there is state level scrutiny of virtual currencies via state licensure and supervision (Bahlke et al., 2016; Tracy, 2018). For example, in New York there is a regulatory framework in place to manage cryptocurrency including cybersecurity and anti-money laundering requirements (Bahlke et al., 2016). Even so, there are still differences in regulation at the state level for virtual currency as there is no central regulating authority (Lewis et al., 2017).

Currently, the role of banks related to the business of virtual currency is unknown (Wandhöfer, 2017). Virtual currencies are not considered deposits, so there may be lending implications if users were to convert from deposit relationships to those of virtual currency instead (Wandhöfer, 2017). A virtual currency issued by banks would be the most liquid asset in existence but would not be any less risky than those offered by fintech organizations (Berentsen & Schär, 018b). There may also be perceived circumvention of regulation, since there is currently no centralized regulatory structure over virtual currency (Berentsen & Schär, 018b; Lewis et al., 2017). Although there are opinions that virtual currency should remain private (Berentsen & Schär, 018b; Tsang et al., 2017), only time can tell if banks decide to move toward a virtual currency model.

Cloud Computing

Cloud computing refers to a model of a virtual environment in which all infrastructures are covered, such as platforms, software, and network (de Meijer & Brown, 2014). Cloud computing offers the above virtual services utilizing the internet environment (de Meijer & Brown, 2014; Park et al., 2016). In the 1990s, internet banking was a security concern for banks (Nedelcu et al., 2015). Internet banking is now the norm, but there are similar security concerns regarding cloud computing in the banking sector (Nedelcu et al., 2015).

There are different types of cloud networks, which include public, private, and community (Nedelcu et al., 2015; de Meijer & Brown, 2014). The public cloud is not a viable solution for banks due to sensitive information and security concerns (Nedelcu et al., 2015). A private cloud environment could be created where the administrator controls

user access and data storage (Nedelcu et al., 2015; Xiaojun et al., 2018). The cloud environment supports the combination of security measures, such as passwords, tokens, and biometrics, with increases the security of the environment (Adjei, 2015; Nedelcu et al., 2015). The cloud environment offers scalability and central management, as well as security certifications, to meet heightened security requirements (Nedelcu et al., 2015).

As with any new technology adaptation, there are both challenges and rewards related to the implementation of cloud computing. Cloud environments are readily available on demand globally and are built to be resilient for improved disaster recovery (Nedelcu et al., 2015; Singh et al., 2018). Cloud technology is cost effective, efficient, and is green technology, reducing energy consumption (Chou et al., 2017; Singh et al., 2018). The utilization of cloud technology by banks could significantly reduce IT spend and increase competitive advantage (de Meijer & Brown, 2014; Tasneem, 2014). The challenges associated with the adaptation of cloud technology include costs related to switching functionality, privacy of data, security concerns, and a lack of standardization of cloud networks offered (de Meijer & Brown, 2014; Singh et al., 2018). There is a lack of transparency available in virtual environments which leads to concerns related to data controls and cybersecurity concerns (Gai et al., 2018; Singh et al., 2018).

There are a variety of network security methods which can be used to assist with the challenges associated with the use of cloud networks. Network security, such as firewalls and intrusion detection, in addition to network monitoring and correlation could be used to strengthen the security of a cloud network (de Meijer & Brown, 2014; Nedelcu et al., 2015). Similar controls are used in traditional networks to address security

concerns (de Meijer & Brown, 2014). Strong authentication, preventative and detective controls, along with corrective controls assist with securing data in a cloud environment (Nedelcu et al., 2015). There are also new ideas emerging related to data security. Cryptography approaches are being tested to determine if the splitting of sensitive data between two cloud servers can assist with the prevention of data leakage (Li et al., 2017).

General surveys have shown a shift in attitude by bank leaders toward cloud computing (Adjei, 2015; de Meijer & Brown, 2014). Fierce competition with fintech organizations is forcing banks to research their own cloud-based solutions (de Meijer & Brown, 2014). The perception of trustworthiness of the cloud technology is one factor impacting the adoption of cloud by leaders within the financial industry (Adjei, 2015). There are still significant differences between banks that have embraced the cloud environment and those that have struggled to understand the benefits (de Meijer & Brown, 2014). Leaders of Bank of America, for example, have announced they are working with Microsoft on the improvement of financial transactions (Gai et al., 2018).

The cloud market is expected to grow over $19 billion by 2020 from just over $5 billion in 2015 (Park et al., 2016). Customer experience is a driving factor for the utilization of cloud services (Hayashi & Bradford, 2014; Park et al., 2016). Customers are impatient and want speed of service (Nedelcu et al., 2015). Cloud technology is used to provide faster processing of mobile payments by merchants, with the use of PayPal and Square for example (Hayashi & Bradford, 2014; Tasneem, 2014). Cloud computing also allows for the access to centralized documents and applications from anywhere, improving access and response times (Tasneem, 2014). There is an opportunity for banks

to explore the benefits associated with the adoption of cloud-based solutions, either through building their own, through partnerships with third parties, or through outsourcing (de Meijer & Brown, 2014).

Internet of Things

Internet of things (IoT) is the connection between devices connected through a network, such as home entertainment devices, cars, appliances, and personal fitness devices (Bailey, 2016; Bareisis, 2017). Both wired and unwired devices are connected via IoT (Bailey, 2016). IoT utilizes cloud technology and typically contribute massive amounts of data to providers of the purchased devices (Bailey, 2016; Wentworth et al., 2017). When purchasing a device that utilizes IoT, there is no way to know exactly how the data will be used (Bailey, 2016). Data that has been deidentified, when personal identifying information is removed, can be freely shared with third parties without direct consumer consent (Bailey, 2016). As with other fintech solutions, consumer protections vary from state to state (Bailey, 2016).

IoT allows for connectivity with most aspects of life, bringing technology together for consumers to integrate smart technology into everyday life (Li & Li, 2017). By 2020 about 26 billion or more devices are expected to be connected via IoT (Li & Li, 2017; Seago, 2016). There are challenges associated with this level of connectivity. Security and privacy are at the forefront when considering the risks associated with IoT use (Bailey, 2016; Li & Li, 2017; Seago, 2016). For example, baby monitor systems and personal video cameras have been hacked due to use of IoT (Bailey, 2016).

Although here are no specific overarching regulations for IoT, adjustments to devices utilizing IoT can be made to increase consumer protections (Bailey, 2016; Seago, 2016). Mandatory disclosures advising consumers of how their data would be used or shared could be implemented (Bailey, 2016). There could also be security solutions embedded within the device itself (Seago, 2016). The solutions may be costly but necessary depending on potential future usage of devices on IoT (Seago, 2016).

The business value of IoT use in other industries has not been fully recognized or explored (Li & Li, 2017). The future utilization of IoT may have an impact on many industries, including the banking industry (Bareisis, 2017; Li & Li, 2017). IoT provides an opportunity for utilizing the networked devices for alternative purposes (Herian, 2017). Although the implication to the banking industry is less obvious that other industries, IoT can have a significant impact on the future of the payments industry (Bareisis, 2017). Wearables, such as smart watches, that are popular today can contain a chip for payment credentials and can be used in place of a card or a phone in future state (Bareisis, 2017). Although research has only recently started related to the use of IoT in the financial services industry, consideration of the potential for future innovation trends is important (Bareisis, 2017).

Consumer Expectations

The complexity of a financial innovation project has a direct relationship to consumer acceptance (Schöler et al., 2014). Adoption of innovation has been found to be influenced by perceived risk which can be impacted by how informed consumers are and how much the new technology is understood (Harris et al., 2016). If the innovative

technology is easy to use, consumers are more likely to adopt the technology (Schöler et al., 2014). Complexity also has an impact on how consumers compare existing options based on their needs (Broom, 2015; Schöler et al., 2014). The benefit to the consumer should include ease of use, without the consumer having to deal with the complexity that goes into building the innovation itself (Schöler et al., 2014).

Payment systems have been a focus of development due to the benefits to economic development and financial inclusion (Balakrishnan, 2016; Kursh & Gold, 2016). The Global Partnership for Financial Inclusion (GPFI) has described financial inclusion as a state in which formal service providers have provided all adults of working age effective access to credit, savings, and payments (Balakrishnan, 2016). Through the revolutionization of payment systems, including the methods in which money transfers take place, the 1.2 billion consumers in the world without bank accounts have alternative financial services options (Chiu, 2017; Kursh & Gold, 2016). In order to compete with fintechs, banks should consider the alternative options that currently are or those that may need to be available for consumers in the future (Berentsen & Schär, 2018b). For example, there are discussions related to offering the payment of interest on cryptocurrency, which may impact deposit relationships with banks (Tsang et al., 2017).

Due to the losses and the events that took place during the financial crisis, there is a lack of trust in the banking system from customers (Daniela, 2013). There are also customers that are skeptical of utilizing fintech companies due to the risks associated with fintech organizations (Ryu, 2018). Customers prefer to determine the value of the utilization of technology by weighing the benefits, conveniences, and known risks

(Bailey, 2016; Ryu, 2018). Ultimately, the number of users that utilize a service is a driving factor of growth and opportunity, including cross-selling (Döderlein, 2018). Fintech organizations have the advantage to deliver faster solutions for consumers that include the conveniences they expect without the rigor of the federal regulations to which banks are subjected (Broom, 2015). This advantage has created a need for banks to consider interactions with fintech companies in order to provide the services that consumers expect (de Meijer & Brown, 2014; Nedelcu et al., 2015).

Interactions Between Fintechs and Banks

Innovation must be integrated in order to become significant within a system, but only to the degree the existing environment is not disrupted (Papadopoulos, 2015). Although there are benefits to the use of fintechs, there is a stronghold that banks have within the financial services industry (Van Loo, 2018). Fintech organizations do not have federal bank licenses and thus have limitations to their integration into the entire array of services that banks offer (Van Loo, 2018). There is still a reliance on bank information in order to conduct a service for consumers (Van Loo, 2018).

Banks have three options when it relates to innovative technology: develop financial technology solutions internally, establish strategic partnerships with fintech through third party engagements, or purchase fintech solutions (Van Loo, 2018). Integration of fintech solutions with outdated technology structures that exist within banks could introduce a delay to the deployment of new technology (Balakrishnan, 2016; Van Loo, 2018). Those delays may lead to banks recruiting the talent necessary to develop the innovation internally (Van Loo, 2018). Bank leaders are subject to limited

patent protection over their innovation, which allows them to be copied quite easily (Schöler et al., 2014). Research has shown that collaboration has been sought in order to increase the production of innovation, which may be a contributing factor to pursuing strategic partnerships with fintechs (Van Loo, 2018; Wonglimpiyarat, 2017a).

Investment in fintech companies increased to over $22 billion (USD) in 2015, as compared to just over $4 million (USD) in 2013 (Kursh & Gold, 2016; Ryu, 2018). Leaders of fintech companies have expanded the scope of development to include the mobile platforms, including mobile payment and remittance (Ryu, 2018). As a result, there have been strategic partnerships formed between fintech companies and banks. The pressures of consumer expectations for real-time payments have contributed to third-party partnerships between banks and nonbank fintech providers (Neyer, 2017; Treacher, 2018). Ripple is one example of such a partnership (Neyer & Geva, 2017; Neyer, 2017). Instead of focusing on retail applications, leaders of Ripple decided to focus on interbank remittance, reducing consumer costs (Neyer & Geva, 2017). For example, Ripple's blockchain technology is being used to power the real-time remittance of payments between Thailand and Japan for 47,000 Thai nationals sending money home from Japan (Treacher, 2018). The possibility also exists to outsource aspects of business completely in order to achieve speed, convenience, and efficiency for customers (de Meijer & Brown, 2014). Although fintech development differs from existing financial services in terms of risks, legal and regulatory implications, and opportunities, bank leaders have numerous options to consider when planning innovation efforts (Ryu, 2018; Wieneke, 2016).

Summary and Conclusions

The current state of regulation in the financial services industry is a direct response to the financial crisis in 2008 by regulatory agencies (Murphy, 2015; Schöler et al., 2014). Regulation is not equally applied to all firms that conduct financial services to customers (Frame & White, 2004; Goeller & Shureen, 2016; Schneider et al., 2016). Fintech corporations are subject to state legislation, while banks are subject to state and federal level legislation (Bexley, 2014; CSBS, 2017; Murphy, 2015). Rapid innovation achieved by fintech organizations are placing strain on the current regulatory structure because much of the current innovative trends are taking place outside of federal governance (Knight, 2017).

Financial innovation drives economic growth and is driven by employee idea generation (Leyer et al., 2017; Nejad, 2016). Human capital is an important factor because without employees, innovation is not possible (Leyer et al., 2017; Sartori et al., 2013). Research related to innovation in an organization has not been proportionate to the pace of financial innovation (Nejad, 2016). The types of financial innovation taking place are well known, but there is considerably less research available related to strategies to implement financial innovation (Chou et al., 2017; Komulainen et al., 2018; Nejad, 2016). Of 121 articles in a study completed in 2016, less than 11% of the articles were related to the firm side of financial innovation (Nejad, 2016). In addition, only 20% of the articles utilized data from North America (Nejad, 2016).

This study may fill a gap in literature by focusing on the firm side of innovation and exploring the perspectives of those responsible for implementation. This study also

supports the importance of human capital in the innovation process. The exploration of bank employees' lived experiences provides insight into their perceptions of the process of implementing financial innovation. The conceptual framework for this study supports the interconnectedness of the financial services industry through systems thinking, examine financial innovation processes through organizational innovation concepts, and explore employees' perspectives through the process of sensemaking

Chapter 3 includes a description of choosing a qualitative methodology for this study, which includes support for the appropriateness of the phenomenological design. Chapter 3 also describes participant selection logic, data collection methods, and aspects of trustworthiness.

Chapter 3: Research Method

The purpose of this qualitative phenomenological study was to explore the lived experiences of bank employees during the implementation of innovative financial technology solutions in a highly regulated environment. This chapter addresses the research methodology for this study. I describe the research design and rationale, as well as my role as the researcher. I provide details related to the methodology, such as those pertaining to participant selection, instrumentation, and recruitment. Data collection and analysis procedures are described, including methods used to provide credibility, transferability, dependability, and confirmability. The chapter concludes with a description of the ethical procedures that were utilized for this study.

Research Design and Rationale

The overarching research question for this study was the following: What are the lived experiences of bank employees regarding the implementation of innovative financial technology solutions in a highly regulated environment? The phenomenological approach is used to study an individual's lived experiences related to a defined phenomenon (Moustakas, 1994; Sloan & Bowe, 2014). To address the research question, the lived experiences of participants were explored in relation to their participation in the implementation of innovative financial technologies.

As noted in the literature review, there was a notable decrease in the amount of research related to financial innovation between 2009 and 2015 (Nejad, 2016). Most of the data for the study were obtained from Europe, with the minority obtained from the United States (Nejad, 2016). In addition, much of the existing research utilized a

quantitative survey approach (Nejad, 2016). Of the 121 financial innovation research articles analyzed by Nejad (2016), only 25 were qualitative studies (Nejad, 2016). A need has been identified to give more attention to qualitative research, especially given the significant changes in the financial services environment (Komulainen et al., 2018; Nejad, 2016). As such, researchers should conduct more research related to firm strategies and firm employees (Chou et al., 2017; Nejad, 2016).

Qualitative research aids in the collection of data on individuals' experiences and circumstances (Atkinson, 2015). Phenomenological research is helpful in understanding individuals' experience from their own perspective (Gelling, 2015). Phenomenology as an approach to research requires the collection of a participant's recollection of a lived experience of a target phenomenon (Sloan & Bowe, 2014). Individual experiences are often collected by conducting interviews and then analyzing the gathered data (Gelling, 2015).

In order to understand human behavior, it is important to view the world from an individual's perspective (Gelling, 2015). Qualitative research allows for the exploration of human experience (Van Manen, 2014). Further, phenomenological research provides a method by which to gather data related to an individual's experience (Vagle, 2016). A qualitative research design is suitable for research topics related to the examination of human experiences, such as the lived experiences of bank employees concerning the implementation of innovative technologies (Van Manen, 2014). Because quantitative methods of research are utilized for studies that analyze the relationships between variables measured quantitatively (Watson, 2015), the quantitative approach was not

appropriate for this study. The phenomenological design was appropriate for this research because the study involved gathering information on the point of view of participants and their recollection of lived experiences.

Other qualitative research designs, such as grounded theory, ethnography, narrative research, and case study, were not appropriate for this study. When utilizing grounded theory, the researcher conducts data collection and analysis (Merriam & Tisdell, 2016). The data are then used to generate a substantive theory grounded in the collected data (Merriam & Tisdell, 2016; Moustakas, 1994). During the building of substantive theory, a core category is used (Merriam & Tisdell, 2016). A core category is the conceptual element through which all other properties are connected (Merriam & Tisdell, 2016). This study was not focused on defining additional theory related to financial innovation or the lived experiences of participants. Although a specific phenomenon was the focus of the study, the phenomenon was not equivalent to a core category. This study focused on exploring the lived experiences of participants related to the implementation of innovative technology.

Ethnography is the study of human society and culture, focusing on the everyday behaviors of participants (Patton, 2015). Ethnography is a research process, and the product of the analysis is also referred to by the same name (Merriam & Tisdell, 2016). Researchers spend time with the groups that they study to obtain firsthand experience (Merriam & Tisdell, 2016). Although this study focused on a specific phenomenon, the phenomenon did not pertain to only one culture, and it was not possible to immerse

myself within a group to obtain the information needed for this study. For that reason, ethnography was not an appropriate methodology for this study.

Telling stories is a way in which people articulate their internal understanding of their experiences and communicate with one another (Merriam & Tisdell, 2016). Narrative research has been defined as a methodology associated with the activity of gathering and analyzing the life experiences of participants as told by their narrative or story (Schwandt, 2015). Narrative research is similar to phenomenology due to the documentation of stories and chronologies with no analysis that takes place (Merriam & Tisdell, 2016). The biographies gathered through the research are the data (Merriam & Tisdell, 2016; Schwandt, 2015). Due to the analysis that took place with the lived experiences gathered for this study, narrative research was not an appropriate methodology for this study.

I considered the use of case study for this study to get an understanding of the experiences of participants during the implementation of innovative technology. A case study is utilized when there is a phenomenon that is local in nature and takes place in a specific social context (Schwandt, 2015). The case study method was not chosen because of the focus on bounded systems instead of the focus being on the phenomenon being experienced (Merriam & Tisdell, 2016). The focus of the study was exploring the lived experiences of those who had participated in the implementation of solutions and was not restricted to the organizational system in which the change may have taken place. After the contemplation of other research methods, it was apparent that a phenomenological approach was most appropriate for exploring the lived experiences of those who

participated in the implementation of innovative technologies. Due to the proprietary nature of innovation, exploring the lived experiences during the change, instead of the change itself, was supported by the chosen phenomenological methodology.

Role of the Researcher

Qualitative interviewing is a method that allows the reconstruction of experiences that the researcher has not experienced by using descriptions from study participants (Rubin & Rubin, 2012). Within qualitative research, the researcher is an instrument by which information is obtained through interviewing participants, reviewing materials, or observing participants (Rubin & Rubin, 2012). Qualitative researchers are interested in the exploration of meaning that individuals place on their lives and experiences within their world (Merriam & Tisdell, 2016). The primary purpose of phenomenological research is to study an individual's day-to-day experiences in the world and any relation they have with other people or things (Vagle, 2016). Phenomenological research is not rooted in the decisions that people make; rather, it is the study of how decision making is experienced (Vagle, 2016).

I was the interviewer and data collector in this study, as well as the analyst of the data. To increase the rigor of the project and reduce bias, bracketing was utilized for this study. Bracketing occurs when researchers set aside, or bracket, their past knowledge, understandings, or experiences in order to analyze the data with an untainted perspective (Vagle, 2016). Bracketing assists with the reduction of bias within a study by setting aside the researcher's experience of the phenomenon being studied (Newman & Tufford, 2012).

I work as an operational risk officer within the banking industry. I am not a bank employee with direct interaction or responsibility related to technology implementation; as such, I would not have met the defined participant selection criteria for this study. My operational risk experience only represents one of many facets of the implementation of any project, not limited to the implementation of innovative financial technologies. As a result, I was able to establish credibility with participants as a peer who understood the industry terminology that was used during the interview process.

Methodology

Participant Selection Logic

The purpose of this study was to explore the lived experiences of bank employees during the implementation of innovative financial technology solutions in a regulated environment. To achieve the goal of the study, purposeful sampling was utilized to identify participants who had experienced the phenomenon being studied (Van Manen, 2014). The target participants were bank employees who were technology managers, project managers, business analysts, or subject matter experts who had participated in the implementation of innovative financial technology in the highly regulated banking environment during the timeframe of 2013 through 2019. The exponential growth of financial technology innovation between 2013 and 2017 supported the chosen timeframe (Kursh & Gold, 2016; Ryu, 2018). Participants were asked to confirm that they met the target participant criteria.

Phenomenological research studies utilize relatively small and purposeful sample sizes (Alase, 2017). In a phenomenological study, the number of participants can range

from two to 25 (Alase, 2017). In qualitative research, a large number of participants and a large amount of resulting material do not guarantee transferability and could result in superficial examination (Malterud, 2001). For the purposes of this study, the target sample population was 20 participants, which is consistent with other qualitative PhD studies utilizing a phenomenological approach (Mason, 2010). I recruited participants through professional network connections, LinkedIn, the Walden Participant Pool, and correspondence sent to individuals in positions that might involve relevant experience. The use of a company to assist in recruiting research participants was not necessary. Data collection continued until saturation occurred at 18 participants. As a result, the actual number of participants was dependent upon reaching saturation and achieving the purpose of this study, which happened before obtaining the target sample of 20 participants.

Instrumentation

Qualitative research focuses on meaning in the context of the study and requires an instrument that is sensitive to underlying meaning during the gathering and analysis of data (Merriam & Tisdell, 2016). For that reason, in qualitative research, the researcher is the instrument for the study (Galletta, 2013; Merriam & Tisdell, 2016). The research was conducted through the use of semistructured interviews, which targeted a timeframe not exceeding 60 minutes. Participants were interviewed via recorded phone interviews. A semistructured interview guide assisted with guiding the interviews, preserving the tone of the interviews, and documenting notes during the interview process. Because the

interviews were being recorded, I was able to focus on taking field notes during the interview process and transcribing the data after the interview was complete.

Phenomenological research does not begin at the point of analysis; the interview process is integral to the success of phenomenological research to ensure that experience of the phenomenon is sufficiently discussed (Bevan, 2014). The interview questions had a clear connection to the research purpose (Galletta, 2013). In addition, the placement of interview questions within the interview guide demonstrated a progression toward an in depth-exploration of the phenomenon being studied (Galletta, 2013).

The development of an interview protocol is an important aspect of qualitative research (Galletta, 2013; Jacob & Furgerson, 2012). The early part of an interview is intended to elicit the participant's story through the use of open-ended questions that allow the opportunity for participants to narrate their experiences (Galletta, 2013; Jacob & Furgerson, 2012). During the opening segment of an interview, the researcher should listen to the unfolding story, ask probing questions in order to clarify the narrative, and take note of any details or observations that may aid in further clarification later in the interview (Galletta, 2013). The middle segment of a semistructured interview is when the questions become more specific to the topic of study (Galletta, 2013). This segment involves the use of information learned about the participant to further explore their experiences specific to the topic being explored and may include probing questions to explore the research topic more deeply (Galletta, 2013). In the concluding segment, the interviewer revisits any points of the participant's narrative that need additional clarification (Galletta, 2013; Jacob & Furgerson, 2012). The conclusion is also an

opportunity to ask participants if they have anything further to add and to express the value of participants' contribution to the research (Galletta, 2013). I applied this approach, along with feedback received from the Institutional Review Board (IRB), in developing and using the interview guide to ensure that there was a consistent structure for each of the interviews (see Appendix B).

Procedures for Recruitment, Participation, and Data Collection

The purpose of conducting this phenomenological study was to explore the lived experiences of bank employees related to the implementation of innovation. The phenomenological approach was used to generate new information based upon the experiences of participants during the innovation implementation process. The recruitment process for participants began with developing the criteria for participants within the study as described within the Participant Selection Criteria section. Participants were recruited via network connections, professional associations, LinkedIn, the Walden Participant Pool, and correspondence sent to individuals in positions that might involve relevant experience. Participants were asked for information related to their relevant experience to ensure that their experience met the requirements of the study.

Each participant was provided with an informed consent form. After reviewing this form, participants provided their electronic consent to take part in the study. The informed consent form summarized the study, participant requirements, and contained an explanation that the information gathered through interviews would be used solely for this research study. Participants were provided the informed consent form upon

responding to recruitment correspondence. Participants were asked to provide their consent prior to scheduling an interview date and time when possible. Consent was received in advance for each of the 18 participants.

Semistructured interviews allow researchers to explore lived experiences as narrated by participants (Galletta, 2013; Schwandt, 2015). I conducted recorded interviews using a conference line service. The recordings were then used in transcribing the data. Participant identifiers were utilized during data collection to limit the use of personally identifiable information. The recordings were reviewed against any transcriptions to ensure accuracy of the data. Interviews were scheduled according to the availability of the participants for 60-minute sessions. A member experience summary was developed based on the responses of each participant. The summaries were sent to participants via email for review. An additional meeting was offered if participants needed to request edits to the member experience summary to conduct any revisions. It was not necessary to use a company to assist in recruiting research participants, as I was able to procure enough participants via my recruiting efforts.

Data Analysis Plan

Phenomenological studies are discovery oriented; therefore, the purpose is to explore the way in which a certain phenomenon is experienced by participants (Van Manen, 2014). The recorded interviews with participants constituted the primary data source for this study. The audio recordings were transcribed word for word. The audio recordings were then reviewed and compared to the transcriptions and notes related to the interviews to ensure that I did not overlook any data elements (Kieft et al., 2014). Each

file was assigned a unique identifier to associate it with the participant interview and associated analyses that took place. A review was conducted individually after each interview in order to mitigate the risk of inaccurate interpretation of the data obtained. As described previously, bracketing was used to reduce the risk of bias and increase content validity (Rehorick & Bentz, 2008). A detailed journal was retained to keep track of bracketed information.

A combination of the IPA approach and thematic analysis was used for this study (Smith et al., 2010; Van Manen, 2014). The first step of IPA is a thorough review of the data, which is inclusive of listening to interviews to review against transcriptions for accuracy and conducting repeated reading to become familiar with the transcript data (Smith et al., 2010). The second step of IPA is referred to as initial noting, which involves reviewing the materials and making notes of items of interest that stand out within the transcript (Smith et al., 2010). The three areas of focus during the second step of making notes are the content of what was discussed, the use of language by the participant, and review of the transcript at a more conceptual level (Smith et al., 2010). After taking initial notes in a holistic manner, I used Van Manen's (2014) approach to thematic analysis. I then analyzed the transcripts a second time, reviewing them by sections, followed by a third time using line-by-line review to determine if there were additional items that stood out (Van Manen, 2014).

After the notes phase was complete, the next step involved documentation of emergent themes that were revealed (Smith et al., 2010; Van Manen, 2014). This step involved focusing primarily on the notes taken rather than focusing on the transcript data

(Smith et al., 2010). The thematic analysis was consistent with the hermeneutic circle, ensuring that the interdependencies between the parts and the whole were considered (Moustakas, 1994; Smith et al., 2010).

The fourth step of the IPA process involves analyzing the themes that have emerged to determine if there are connections between them (Smith et al., 2010). This process took place for each interview and transcription. The themes that emerged from each participant's lived experience was analyzed across the entire data set to identify like patterns that emerged (Smith et al., 2010). The review of themes across participants was an iterative process to ensure that saturation was achieved (Merriam & Tisdell, 2016).

Analytical software can be a useful tool for researchers to aid with organization of data (Vagle, 2016). The interview data were hand-coded using HyperResearch qualitative analysis software as the repository for the researcher-developed codes (ResearchWare, n.d.). HyperResearch was developed as a computer-aided qualitative data analysis software by Dr. Sharlene Hesse-Biber, T. Scott Kinder, and Paul Dupuis (ResearchWare, n.d.). This software became a commercial product in 1991 and is available to researchers for use in qualitative studies (ResearchWare, n.d.). HyperResearch was used to import the data and provided a structured way to analyze and hand-code the data. HyperResearch served as the primary tool for data organization (ResearchWare, n.d.).

After conducting the analysis of the interview transcripts, a member experience summary was developed utilizing phenomenological reduction that describes the participant's experiences in a summary format (Husserl, 1931/1952; Van Manen, 2014). Utilization of phenomenological reduction allows the researcher and participant to have a

refined and unbiased view of the participants perception of the phenomenon being studied (Hanna et al., 2017; Van Manen, 2014). The member experience summary was shared with the participant electronically for review and to provide the opportunity for correction, as needed. Additional conversations were offered to participants, if necessary, for the member checking process and to discuss any corrections.

The use of qualitative inquiry may not yield definitive answers to research questions (Merriam & Tisdell, 2016). As a result, it is equally important to analyze the results that differ from the majority within the study, also referred to as discrepant cases (Merriam & Tisdell, 2016; Ravitch & Carl, 2016). Review and analysis of potentially discrepant data allowed for opportunities for reanalysis to confirm the completed analysis and determine how the discrepant data challenged the results of the study (Ravitch & Carl, 2016). Analysis of discrepant cases also aids in supporting the credibility and dependability of the study (Merriam & Tisdell, 2016).

Issues of Trustworthiness

Credibility

The credibility of a research outcome is dependent upon how well the phenomenon is represented by the researcher (Morse, 2015). My goal was to establish confidence in conclusions made from the research. I compared field notes to the interview data prior to the development of the member experience summary. The member experience summary was developed individually and was provided to participants for review, or member checking. Additional discussions were offered to participants in the event revisions were requested. Interviews were compared to one

another to identify any shared experiences that were generalizable for the study. A reflexive journal was utilized to document notes related to personal thoughts and reflections, reasons for pursuing the research, and personal experiences (Schwandt, 2015). In addition, an audit trail was maintained to itemize documents that contain information pertinent to the study, such procedures for data analysis, field notes, statements of findings, member experience summaries, and any personal notes (Schwandt, 2015).

Transferability

Transferability refers to the applicability of the findings of research to other studies, utilizing different settings for groups (Cope, 2014). Researchers should provide sufficient information related to the study, such as participant selection and research context, to enable to reader to determine if the findings have the capability of being transferable (Cope, 2014; Schwandt, 2015). To achieve transferability, I have provided detailed information related to the phenomenon being studied, participant selection information, and the documents that were utilized (such as the interview guide). I have also maintained an audit trail. By doing these things, the analyses and results from this study may be determined to be relevant in other areas.

Dependability

Dependability is based upon the ability for the study to be repeated by another researcher (Cope, 2014). The dependability of a study is dependent upon the researcher's use of consistent procedures and the maintaining of data integrity (Patton, 2015). I used member checking, reflexive journaling, and audit trail to ensure the data integrity was

maintained. A semistructured interview protocol was also utilized to aid in ensuring that consistent procedures were applied for this study.

Confirmability

The researcher should be able to demonstrate confirmability, which is that the data are representative of the participants responses, not including researcher bias (Cope, 2014). Reflexivity was utilized to improve confirmability for this study, along with the bracketing that took place. I maintained a reflective journal to track any thoughts, notes, or personal experiences that could have an impact on the study (Newman & Tufford, 2012; Schwandt, 2015). In addition, member checking was conducted by participants to confirm their interviews were interpreted accurately.

Ethical Procedures

The Institutional Review Board (IRB) is an ethics committee for research that is in place to both protect participants' rights and to aid in the facilitation of ethical and beneficial research (Seidman, 2013; Trace & Kolstoe, 2017). IRB approval must be obtained prior to conducting research (Seidman, 2013). The IRB review process may include the aim of the study, methodology, target participants, and informed consent processes, including withdrawal processes (Seidman, 2013). An application was submitted to the IRB for this study and approval obtained in order to conduct research.

The informed consent process ensures that participants are aware of the details related to the study, any associated risks, participants' rights, and any benefits of participating (Seidman, 2013; Trace & Kolstoe, 2017). Informed consent also includes details related to confidentiality, how data may be shared, and contact information for

any questions (Seidman, 2013; Trace & Kolstoe, 2017). There were minimal risks and no direct benefits to participants. Informed consent was obtained prior to the interview process taking place. Participation in the study was voluntary. Participants were made aware that if they chose to discontinue participation in the study, they were able to do so at any time without prior notice. Upon withdrawal, any data pertinent to the participant would have been deleted. There were no participants that withdrew from the study, so these protocols were not utilized.

Data obtained for the study is maintained securely to ensure privacy and confidentiality. Electronic data are being stored in a strong password secured network with regular backups for resiliency. The naming convention does not include any personally identifiable information. Participant identifiers were identified to alleviate the need to utilize personably identifiable information when not necessary. Any physical documents that may have been obtained would have been scanned and stored digitally; however all information was obtained digitally. Storing of participant documentation in which identifiable information may be present is separate from the data, in a separate strong password secured location. Electronic data will be maintained for a period of five years. Once the five years has expired, the electronic data and any backup information will be deleted.

Summary

The use of the phenomenological method of research can be useful when a study involves the investigation of the lived experiences and perceptions of those that have been through or have personal knowledge of a specific phenomenon (Gelling, 2015;

Sloan & Bowe, 2014). Due in part to the notable decrease in qualitative research pertaining to financial innovation, I chose a phenomenological approach for this study to explore the lived experiences of bank employees during the implementation of innovative technology (Nejad, 2016). Due to the exploration of lived experience related to a stated phenomenon, phenomenological interviews were the most appropriate approach to research (Vagle, 2016; Van Manen, 2014).

Due to the exponential growth of financial technology innovation between 2013 and 2017, the target participants had experience as a technology manager, project manager, business analyst, or subject matter expert during an innovative technology implementation from 2013 to 2019 (Kursh & Gold, 2016; Ryu, 2018). An interview protocol was used to aid in ensuring consistent procedures were applied during the data gathering process (Galletta, 2013; Jacob & Furgerson, 2012). An Informed Consent form was sent to all potential participants, in which electronic consent was requested and obtained prior to scheduling the interview.

The data were analyzed by utilizing transcription of the interviews, along with applying both the thematic and IPA approaches (Smith et al., 2010; Van Manen, 2014). I used bracketing to increase credibility, dependability, and confirmability (Newman & Tufford, 2012; Schwandt, 2015). In addition, member experience summaries were developed to facilitate member checking by participants to ensure accuracy of the summary data. Data obtained for this study has been stored and is being maintained securely for a period of five years.

Chapter 4: Results

The purpose of this qualitative phenomenological study was to explore the lived experiences of bank employees during the implementation of innovative financial technology solutions in the highly regulated banking environment. As a result, the overarching research question for this study was the following: What are the lived experiences of bank employees regarding the implementation of innovative financial technology solutions in a highly regulated environment? I interviewed a sample of 18 participants who had experience as technology managers, project managers, business analysts, or subject matter experts who had experienced the target phenomenon during the timeframe of 2013 through 2019, in which there was exponential growth of financial technology (Kursh & Gold, 2016; Ryu, 2018). The original target population was 20 participants; however, after completion of the last five interviews, it became clear that saturation had been achieved due to the similarity of the data that continued to be obtained through the interview process (Merriam & Tisdell, 2016).

This chapter includes a description of the research setting and demographics of participants. A description of data collection methods and processes is also included, as well as a discussion of the approach to data analysis. The results of the research study are also provided as the concluding aspect of this chapter.

Research Setting

Interviews were the sources of data for this study. Telephone interviews were conducted with all participants for consistency. The average length of the interviews was approximately 26 minutes. After receiving IRB approval for the study (Approval Number

07-25-19-0224713), I posted the recruitment flyer on LinkedIn and posted physical copies of the flyer in public locations near banks. I also sent direct messages to individuals on LinkedIn based on their LinkedIn profiles indicating that they had relevant experience within the banking industry within the desired timeframe.

Participants either contacted me directly using the contact information on the flyer or responded to a direct message expressing interest in participating in the study. I provided a copy of the consent form to each participant, and upon receiving the participant's electronic consent to participate, I provided timeframes for the participant to choose from to conduct the interview or allowed for the participant to select a time that was convenient for them. I used a conference call service called UberConference to conduct the phone interviews. Before each telephone interview, I tested the two digital recorders that I used for this study. The only individuals on the conference calls were me and the participant, ensuring confidentiality for each participant.

Prior to beginning the interview questions, I reminded participants about several items detailed within the consent form, including the recording of the call, the target participants for the study, and the purpose of the study. I used a semistructured interview format, beginning all interview calls with the same question and using the core questions to guide each interview. I used a personal journal to document feedback from participants or key items that stood out during the interviews.

After each interview took place, I transcribed the recorded data and reviewed my notes. I then reviewed the transcription while listening to the recording to ensure accuracy. I sent participant experience summaries to the participants electronically upon

completion of the transcription and preliminary steps of data analysis to facilitate member checking. There were no organizational conditions that would have influenced participants at the time of the study, nor any conditions that might have influenced interpretation of the results, such as changes in personnel, budget changes, or other trauma.

Demographics

The research study involved exploring the lived experiences of individuals employed at a bank during the implementation of an innovative financial technology solution. Demographic details were not pertinent to the study, aside from confirming that participants met the participation criteria. The focus of the study was on the participants' perceptions and feelings when experiencing the target phenomenon. The target sample size for this study was 20 participants. There were 18 participants who consented to take part in the study and provided their recollection of their lived experiences.

Data Collection

I conducted telephone interviews to collect data from 18 participants who met the target criteria. I assigned each a participant a number to utilize in place of identifiable information, using the order of the interviews to determine the number assignment. The use of a participant code aids in ensuring that the identities of participants remain confidential.

Each participant was provided a toll-free conference number to call for the interview. Each interview was recorded using two audio recorders, one primary and one for backup. At the beginning of each conference call, I provided a brief overview of the

intent of the study and the target participants. I explained the participants' rights and reminded each participant that the interview would be recorded and transcribed for use in the study. The interview protocol for the semistructured interviews can be found in Appendix B. The interviews were scheduled for 60 minutes but lasted between 15 minutes and 52 minutes.

Utilizing the interview protocol document as a guidance for the semistructured interviews, I began the interview portion of the conference calls with the same question and used the core questions to guide each interview. The initial question to start the interviews was the following: Keeping in mind that the focus is on your experiences of the implementation and not the specific innovation activity, what aspect of the implementation stood out for you? The response to this question determined the order of the remaining guiding questions, which were as follows:

2. How did you feel about the experience?
    a. Describe how you felt about your level of involvement in the change process.
    b. How did the inclusion/exclusion make you feel?
3. What challenges stood out for you, in your personal experience (environmental, process, people, etc.)?
4. What thoughts or impressions are most prevalent to you related to the implementation?
5. How did the experience impact you going forward?

6. What advice do you have for bank leaders related to future innovation implementation efforts?
7. Final Question: Is there anything additional that you would like to share about your experiences that I have not asked about?

The semistructured interview questions were developed so that the prompts would allow the participants to share their lived experiences in an organic manner. I began the interview questions by asking about what aspect of the phenomenon stood out to the participant, easing into the conversation and allowing the participant to use sensemaking to share their experiences within a professional setting (Teece & Leih, 2016). The next two interview questions in the documented sequence were geared toward prompting participants to share how they felt about the experience they were describing and what challenges stood out to them. I probed by asking about what went well if the examples did not include a positive perspective on the experience. The remaining three questions prompted participants to state which thoughts or impressions were most prevalent and how the experience impacted them going forward, ending with what advice they would provide to bank leaders about future efforts. I concluded each interview by asking the participant if they had anything additional that they would like to share. The semistructured interview questions allowed for the participants to think about what was most meaningful to them related to the phenomenon and expand on their personal experiences in an organic manner.

I used follow-up or probing questions to obtain additional information related to participants' lived experiences when necessary. All participants answered all interview

questions during the semistructured interviews. There was no compensation for participation in the study. Participants were all asked if they would like to receive a summary of the results of the study once completed.

Data Analysis

During data analysis, a combination of the IPA approach and thematic analysis was used (Smith et al., 2010; Van Manen, 2014). As the first step of the IPA process, I thoroughly reviewed the data. This included listening to interviews to review the recordings against the transcriptions for accuracy and conducting repeated readings to become familiar with the transcribed data (Smith et al., 2010).

The second step, referred to as initial noting, involved reviewing the materials and making notes of items of interest that stood out within the transcripts (Smith et al., 2010). There were three areas of focus during the second step: (a) the content of what was discussed, (b) the use of language by the participant, and (c) review of the transcript at a more conceptual level (Smith et al., 2010). The initial noting process was the first of the analysis processes and involved reviewing the transcript to determine what language was used, including descriptive language related to the participant's feelings and experiences. The use of language was also pertinent to identifying key descriptors of the events relating to the phenomenon being studied. The review for content included identifying the scenarios and situations that were described throughout the interview, paying particular attention to the way that the participant responded to the interview questions. The conceptual overview of the concepts allowed for a more holistic analysis of the

content and language that were used and how the responses describe the participant's lived experiences.

After the initial noting step of the process was complete, Van Manen's (2014) approach to thematic analysis was used. An analysis of the transcripts was conducted a second time, with review occurring by sections, followed by a third time using a more detailed line-by-line review to determine if there were additional items that stood out (Van Manen, 2014). The thematic analysis was conducted utilizing the HyperResearch software, which allowed for manual inductive coding and acted as a repository with reporting capabilities (Researchware, n.d.). The initial noting and inductive coding thematic analysis results were used to inform the development of participant experience summaries.

Focusing primarily on the notes taken rather than transcript data, the next step was documenting emergent themes that were revealed (Smith et al., 2010; Van Manen, 2014). The thematic analysis was consistent with the hermeneutic circle, ensuring that the interdependencies between the parts and the whole were considered (Moustakas, 1994; Smith et al., 2010). To reinforce the hermeneutic circle, the fourth step of the IPA process was to analyze themes to determine if there were connections between the themes that emerged (Smith et al., 2010). This process took place for each interview and transcription. The emergent themes were then used to develop categories that would later be aligned with the codes that were derived from the thematic analysis of the transcript by section and line-by-line.

The themes that emerged from each participant's lived experience were then analyzed across the entire data set to identify patterns (Smith et al., 2010). The review of themes across participants was an iterative process to review consistency of themes, categorization, and coding, while also ensuring that saturation was achieved (Merriam & Tisdell, 2016). It was at this point of the analysis that themes, categories, and codes from the previous steps for all interviews across the dataset were reviewed together. Table 1 provides the emergent themes, associated categories, and number of codes that were correlated with each category.

Table 1

Themes, Categories, and Codes

	Themes	Categories	# of codes
1	Change management	Planning	10
		Execution	13
		Experiences	10
2	Technology selection	N/A	7
3	Leadership role	N/A	5
4	Employee engagement	Participation in change	6
		Feelings	14
		Consideration of employees	5
		Benefits	5

The data for the study were collected through utilization of the interview guide, resulting in 18 total completed interviews. The transcripts were the primary source of data, in which the detailed data analysis plan was executed. I used the results of the transcript review, initial noting, and thematic analysis with inductive coding to create member experience summaries.

Phenomenological reduction was applied, utilizing the data analysis steps to describe the participant's experiences in a summary format (Husserl, 1931/1952; Van Manen, 2014). Phenomenological reduction allows researchers and participants to gain a refined and unbiased view of the participants' perception of the phenomenon being studied (Hanna et al., 2017; Van Manen, 2014). The member experience summary was provided to each participant electronically, providing the opportunity for correction as needed. P1 and P4 asked for a brief conversation to understand the language utilized in the member experience summary, in which minor, nonmaterial wording changes were requested as a result of both discussions. The remainder of the participants did not request changes to their experience summaries.

Discrepant Case(s)

This phenomenological study focused on the lived experiences of the participants during their involvement with the implementation of an innovative financial technology. Each participant provided responses to all interview questions that were asked. No one declined to answer a question. During the transcript review, codes were created to identify whether there were instances in which the participant's statements ran counter to the beliefs of the majority. There was only one participant whose experience was largely positive, with very few challenges to express; however, that participant's experience did generally align with experiences of others who participated in the study.

Evidence of Trustworthiness

Credibility

The credibility of a research outcome is dependent upon how the phenomenon is represented within the research results (Morse, 2015). To establish confidence in the conclusions made, first unique identifiers were assigned to each participant and the associated interview and analysis documentation to maintain confidentiality. Field notes were compared to the interview data prior to developing the member experience summary. Each member experience summary was developed individually and was provided to the participant for review, or member checking, via electronic message. Two participants had questions about the member experience summary that was sent to them to summarize their interview; however, no revisions were requested from any participants.

Interviews were compared to one another to identify any generalizable shared experiences. A reflexive journal was also used to document my personal experiences and any notes related to personal thoughts and reflections (Schwandt, 2015). In addition, itemization of documents that contained information pertinent to the study was used to maintain an audit trail for the study (Schwandt, 2015).

Transferability

To support transferability, or the applicability of the findings of research to other studies, it is important that researchers provide sufficient information related to their studies (Cope, 2014; Schwandt, 2015). As a result, details related to participant selection and the research context for this study have been provided to enable to reader to

determine if the findings have the capability of being transferable (Cope, 2014; Schwandt, 2015). To further support transferability of the study, I have provided detailed information related to the phenomenon being studied, participant selection, the interview guide that was used, and other meaningful considerations. I also maintained an audit trail. By focusing on the documentation of the details and supporting resources, the analyses and results from this study may be determined to be relevant in other areas.

Dependability

The dependability of a study, that is the ability for the study to be repeated by another researcher, is dependent upon the researcher's use of consistent procedures and the maintaining of data integrity (Cope, 2014; Patton, 2015). The semistructured interview protocol was consistently utilized to aid in ensuring that procedures were steadfastly utilized for this study. To aid with ensuring dependability of this study, I utilized member checking of the member experience summaries by each of the participants. I also utilized reflexive journaling, and audit trail to ensure the data integrity has been maintained.

Confirmability

Reflexivity was utilized for this study to demonstrate that the data are representative of the participants responses, not including researcher bias, also referred to as confirmability, (Cope, 2014). I maintained a reflective journal to track any thoughts, notes, or personal experiences that could have had an impact on the study (Newman & Tufford, 2012; Schwandt, 2015). Reflexivity in addition to the bracketing that was

conducted improved confirmability for this study. In addition, member checking was conducted by participants to confirm their interviews were interpreted accurately.

Results

The selected data analysis process was comprised several steps with results that correlate to each. The review of transcripts and initial noting steps were conducted manually, without the use of software. The thematic analysis by section, then by line, was conducted with the support of a software called HyperResearch. Unlike deductive coding software on the market, HyperResearch is a software that can be used as a repository for manual coding, allowing for more efficient reporting of research results (Researchware, n.d.). The 18 interview transcripts were coded utilizing inductive coding, allowing the codes to arise utilizing the participants' interview responses (Xu, & Zammit, 2020). The results of each of the data analysis steps were then utilized to identify themes, categories, and codes that ultimately respond to the overarching research question guiding the study, which is: What are the lived experiences of bank employees regarding the implementation of innovative financial technology solutions in a highly regulated environment?

Inductive Coding Results

This study utilized inductive coding, utilizing the participants' interview responses to drive the development of codes (Xu, & Zammit, 2020). There were a total 75 codes that emerged while conducting inductive coding on the 18 interviews. Those 75 codes are aligned to the four major themes that arose out of the data analysis. For the themes with a large volume of codes, categories were utilized to aid with analysis of the

data and identifying more specific themes within the data. Only two of the four themes utilize categorization for the associated codes.

When reviewing the specific codes across the data set, it was important to identify where there was a concentration of code usage within the data set. This concentration of most used codes aids in identifying key themes resulting from the data analysis. The top ten codes with the highest utilization during analysis has been provided in Figure 1.

As noted in Figure 1, the most utilized code is Communication with 152 uses. Collaboration and Inclusion of Key Parties, along with Change Management Process were the next most utilized codes wit 120 and 109 uses, respectively. The remaining seven codes from the top ten have significantly less uses, ranging from 65 to 44 uses. The remaining 65 codes from the data analysis have between two and 41 uses within the dataset.

The ten codes that were most used during data analysis represent each of the four themes that have been identified. The Change Management theme has the most representation (five), but also is comprised of the highest volume of codes (33 codes). Employee Engagement and Leadership Role themes have two codes each, while Technology selection has one code, but is also comprised of the second lowest volume of codes (seven codes).

Figure 1

Top 10 Codes From Data Analysis

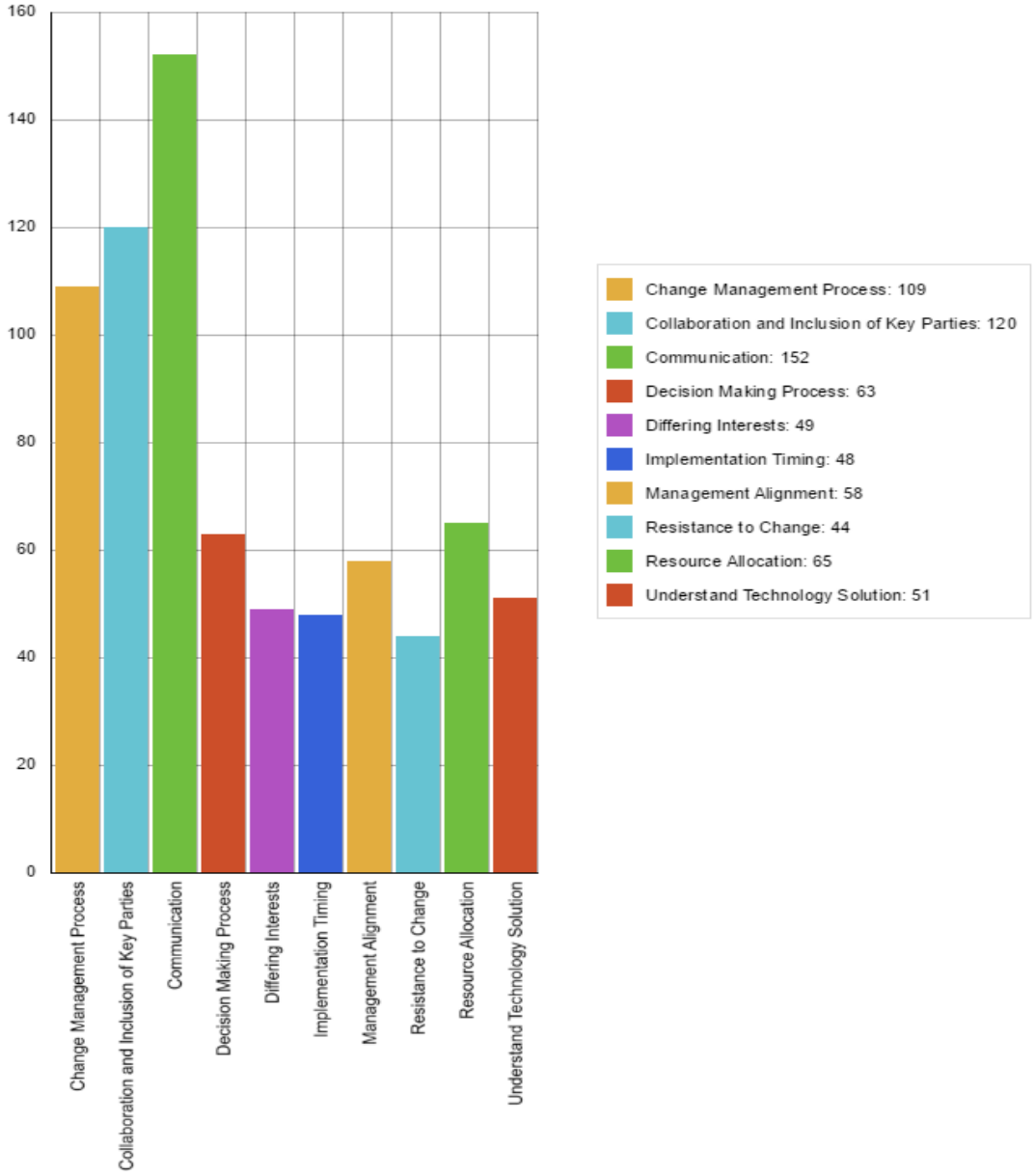


Table 2

Top 10 Codes—Category and Theme Distribution

	Codes	Categories	Themes
1	Communication	Planning	Change management
2	Collaboration and inclusion of key parties	Participation in change	Employee engagement
3	Change management process	Execution	Change management
4	Resource allocation	Execution	Change management
5	Decision making process	Execution	Change management
6	Management alignment	N/A	Leadership role
7	Understand technology solution	N/A	Technology selection
8	Differing interests	N/A	Leadership role
9	Implementation timing	Planning	Change management
10	Resistance to change	Feelings	Employee engagement

Change Management

During the interviews related to the implementation of an innovative financial technology, change management is one of the themes that quickly emerged from the data set. The Change Management theme is comprised of three categories: Planning, Execution, and Experiences. Table 3 provides detail related to the total usage of each Category within the Change Management theme.

Table 3

Change Management Theme—Category Total Usage

Theme	Category	# of total uses
Change management		969
	Planning	399
	Execution	425
	Experiences	145

Category and Code Analysis

Execution is the most used category with 425 uses within the data analysis, with Planning coming a close second at 399 total uses. The Experiences category is comprised of codes that correlate to specific experiences that took place related to change management that did not fit into a planning or execution step and has a volume of 145 uses.

Exploring the code usage within the Change Management theme is important to determining shared experiences of participants in this study. Table 4 includes data related to categories, codes, and usage of each code within the data analysis results. The most used code within the Planning category is Communication, which is also the most utilized code in the overall study. The most used code in the Execution category is Change Management process, which is also the third most utilized code in the overall study. The most used code in the Experience category is People Challenges, which represents challenges related to people that could not be otherwise coded with specific activities or experiences.

Table 4

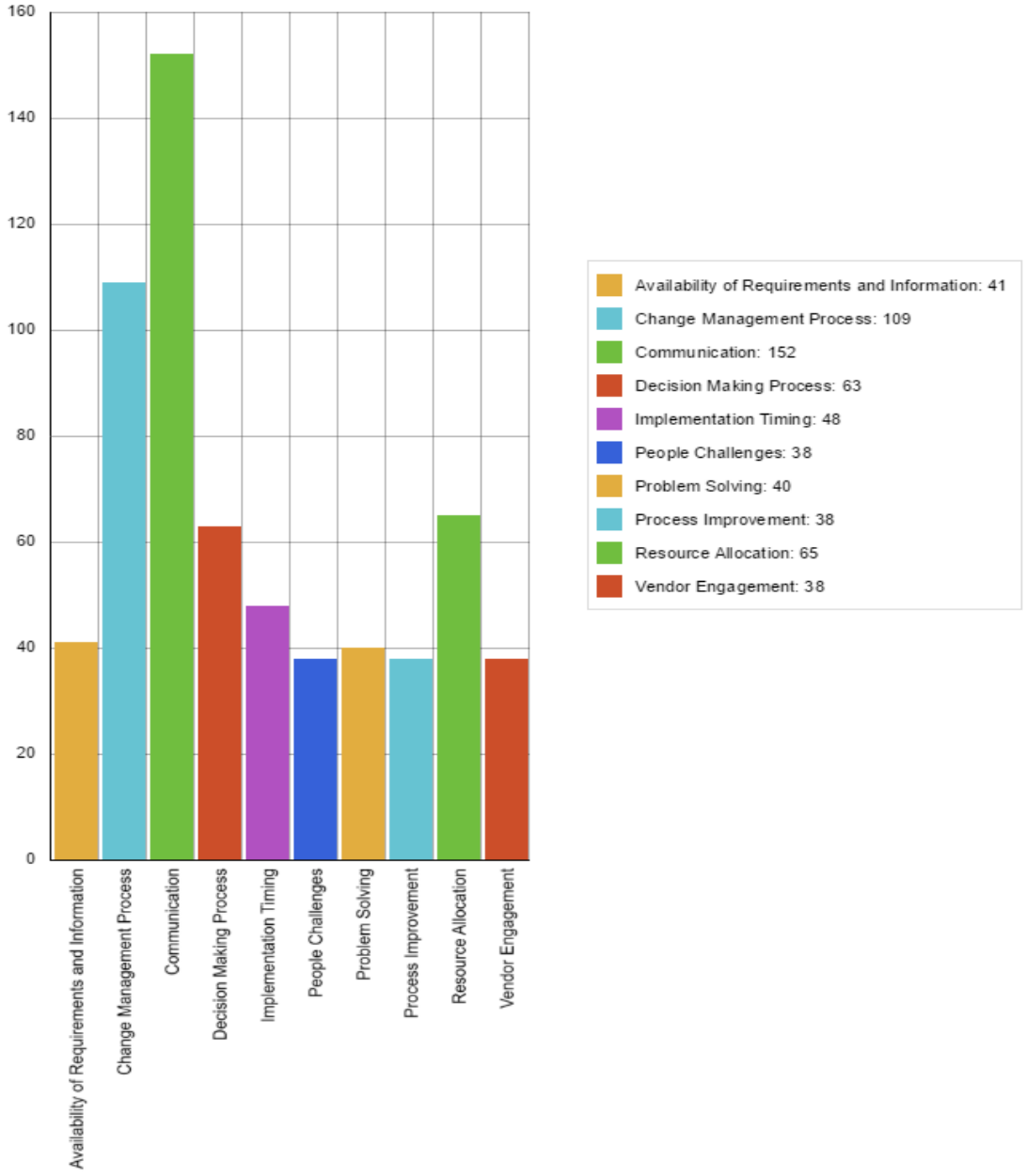
Change Management Theme—Categories, Codes, and Usage

	Categories	Codes	# of uses
1	Planning	Communication	152
		Implementation timing	48
		Availability of requirements and information	41
		Process improvement	38
		Proactive strategy	34
		Managing expectations	33
		Project planning	26
		Aged requirements or technology	13
		Early involvement	9
		Strategic priorities	5
2	Execution	Change management process	109
		Resource allocation	65
		Decision making process	63
		Problem solving	40
		Vendor engagement	38
		Technology investment cost	27
		Training	23
		Regulatory environment	19
		Change in objective/goal	14
		Postimplementation	10
		Advice from disinterested party	6
		Formal documentation and review	6
		Contractual obligations	5
3	Experiences	People challenges	38
		Insight into challenges	17
		Opportunity for improvement	15
		Use of tech changes	15
		Expanded responsibilities	14
		Lessons learned	14
		Overcome challenges	12
		Did not deliver value	9
		Flawed data	6
		Effort not worth the outcome	5

The Change Management theme includes five of the top 10 utilized codes in the overall study. Figure 2 provides the top ten utilized codes within this specific theme. The sixth code was Availability of Requirements and Information, which highlights instances in which access to information or requirements was described within participants' experiences. Problem Solving was the seventh code, referring to instances where problems were explored, or a solution identified. Process Improvement, People Challenges, and Vendor Engagement codes were tied for 8th place in usage. The top ten codes within the Change Management theme provide context for the experiences most prevalent when comparing the experiences of the participants in this study.

Figure 2

Change Management Theme—Top 10 Codes



Discussion

An implementation by nature is a change which can be managed in various ways. Although the experiences of participants varied, the Change Management theme was prevalent in all 18 interviews (P1-P18). The reason for this is the phenomenon that is being explored directly correlates to change management activities. The results for the change management theme will be covered by category.

Planning. Change management includes an aspect of planning for the upcoming change. One aspect of planning is proactive strategy. P04 expressed, “we didn't really have a solid philosophy as to how we were approaching this project. So that's what led to, we didn't create a scope.” Lack of scope can create challenges, since the plan is what is used to execute the change. “I think if you have a plan in place, it makes it difficult to lose sight of what direction you're going in” (P04). P07 expressed that innovation will set apart those institutions that will be successful and having a plan in place to accomplish innovation is an important first step. “It's like logistics, like going to a battle, you're going to win your battle if you plan” (P02). It is also important to not “just do every step because we say we do every step” (P17), but instead “realistically make sure that everything is accounted for” (P12). By planning ahead, you can “take control of it and you know, make the outcome what it needs to be,” as suggested by P09. P13 suggested, “you need to remind people why we're doing the project and what the benefit is going to be to the customer or the fed or internal people.” An example shared by P14 helped to articulate the benefits of proactively strategizing. “Think from a security perspective, we

took advantage; we want to take advantage of massive transformation efforts to natively embed security into the constructs and technology and processes" (P14).

A complimentary aspect in this category is project planning, where one the most important aspects according to P04 is to "organize, organize, organize, organize. I can't speak enough to how important having organization is." There are times, however, where there are challenges in the planning stage. P18 explained, "in the beginning, in the planning stages, especially for the technology folks like myself, there wasn't a lot of inclusion on the business side." P13 shared a similar experience, "the business is intent on doing the project, the technology team is brought in. And then probably the last thing is they understand how to measure success because I think that's sometimes you lose that in a project." Maintaining a focus on the organization, as suggested by P04, would help with coordination and determining a measurement of success. P12 explained, "I would say there are at the highest probably level, there are a lot of moving pieces that need to be coordinated to be successful."

The more complex or brand new a technology or project, the less smooth the process will be according to P16's experience. P06 shared, "my experience was that the solutioning was kind of disjointed. Building that solution was not really organized from a project management standpoint." Similarly, P02 shared "the biggest implementation, the bigger the change, the more you have to do to put people on the same page." When planning a project, P01 suggested "take into consideration where you are, think about where you want to go, and then look at what you need to change in order to get there." It may also be helpful, based on P07's experience, to "get feedback how this could be better

implemented, maybe tweaked if necessary before implementation. Let's do some field testing. Let's gather some data. And only then should we roll it out."

In order to complete a change implementation, communication is a critical component. P10 shared advice on how to proactively communicate.

> I think communication is big. Being up front about it, being upfront about why we're doing the things that we're doing. And I think just knowing that communication is ongoing, whether there's change or not, just that, hey, this is how we're going to be progressing. We're going to be progressing in a more of a technology driven environment. And this is the path that we're going to be on. Just so folks aren't surprised by it. (P10)

It also helps to build partnerships when people "show that vulnerability, you become much more of a partner with them. They feel like you care," as described by P13. Those people that are able to develop trust with partners, based on P14's experience, are referred to as "glue guys or glue girls, they have the skill sets to crossover between different areas. Some people call that a transition function, I look at it as identifying key talent that can actually bridge the gap."

Challenges can arise when proactive communication is not a part of the proactive strategy or is not executed appropriately. P15 shared "that if you think you're communicating enough you're probably not. Because you need to make sure that everyone understands what's happening." Challenges experienced by P05 were due to a lack of understanding between functional and technology resources. "There were a lot of interesting and or heated conversations where neither of us felt like we were getting

anywhere with the other because we just simply didn't understand each other and couldn't put it in words that the other one could understand" (P05). P08 shared similar challenges but was able to make improvements to communication over time.

> One, I learned how to figure out how to communicate with the people I'm dealing with. What I mean by that quickly is truly, as I stated earlier, understanding how to switch those languages for the person and their experience background. The other piece would be just really making sure that, for me personally, one, making sure that I do all my due diligence prior to raising an issue. (P08)

P11 was able to act as a transition function, similar to P14's suggestion, helping to bridge the communication barrier.

> I think that's been kind of nice for the operational teams, because I can give their perspective. Like, hey, we do this thing today because the system that we're using today doesn't do this statement thing right, which is really a big deal. Make sure it doesn't happen again, because we've got four FTE docked against that every day. (P11)

P12 was also able to work through communication challenges by utilizing collaborative approaches.

> So there would be many times that maybe on the operations side they were asking for specific changes. Those changes then will be reviewed from the technical, from a technical lens and it will be responded to. Sometimes it would be something that could easily be accommodated and sometimes it wasn't. If it

> wasn't, there was a lot of communication back and forth to understand why if there was another means of delivery and if not, what else could we do. (P12)

Communication with leadership can also present challenges during an implementation. P18 explained, “making sure the leadership can understand that engaging the technology folks upfront and sooner is always a good thing and will help with the implementation as well.” In P16’s experience “every conversation felt like a repeat of my prior 10 conversations because nobody had the prior knowledge or historical knowledge of what we were talking about.” The proactive communication and preparation with leadership helps to achieve “consistency of voice,” as in P09’s experience, ensuring that the customer has a consistent experience when multiple business areas are involved in the change.

The consistency of communication should also be carried out internally to avoid confusion. P01 explained “there was a lot of confusion and a lot of lack of communication between the people who were planning the change and the people who were expected to be managing it day to day after the implementation.” Knowing how to communicate amongst the project team is important. P06 shared an experience where “there was no real resource trees or lists, so you didn't know who to reach out to.” In addition to now knowing who to reach out to, it may be challenging to achieve meaningful communication when a stakeholder group is too large, as in P04’s experience. “We were leading requirement sessions, and by team list, nearly 40 or 50 people. So imagine trying to gather very specific requirements from that many people” (P04). P04 felt that the quiet voices in a group like that did not get a voice.

There is a component of changes in objectives or goals that fall into the communication aspect well. Scope changes may have takes place due to people either not being included or not speaking up during discussions, as indicated by P04's experience. P09 explained, "you can't like, build a plane while you're flying it kind of thing so just get the plane up there, get it going and just have a plan that after it's there."

Communication may act as a barrier to being able to collect requirements, as in P05's experience. P01 explained "a big part of the problem is that so many things changed but nobody went back and changed the business requirement document to make sure that the reports were created with the newest and most accurate information." P04 further expanded on the communication challenges by sharing,

> There were a lot of requirements that required additional discussions, additional meetings and people were coming back as we neared the deadline for requirement's submission where people are raising their hands and saying, "Oh well what about this?" And, "Oh, this doesn't work for us." And so it required additional work that could have been done the first time. (P04)

Similarly, P12 shared "there have been many times that I've had to sit down at a basically a scoping session to see what the business would like to have."

Lack of availability of information may also contribute to either aged requirements or flawed data being utilized for an implementation. P09 shared an experience during an integration where the information provided was aged and the project team may not have considered potential long-term effects to the bank and potentially to customers. Timelines can also present challenges for availability of

information, as explained by P15. “I felt the team that was responsible for the change management was also rushed into recording, building out how the process should work in tests, but it never really matched up to what the users needed” (P15) There is a delicate balance to consider, however, as shared by P17. “I've seen too many projects and initiatives that just sit on a shelf waiting to get launched because they just weren't 100% ready. And then financial institutions, I just think that's just a bad idea” (P17).

Training is an important aspect of chance to ensure that the project team and end-users understand how to use the new functionality. P12 explained “there's a lot of education that needs to be done” and P03’s experience is in agreement. “With the adoption of any new technology, I think there's always the learning curve for the administration team. So for my team to take on the system, we didn't have formalized training” (P03). P05 shared, “a lot of it was learning on the go and drinking from the fire hose.” P01 shared, “I definitely would have provided more training.” P06 also explained,

> There was a lot of talk of training, there was not a lot of action in training. You could go out and try to learn things on your own or take time and sit with someone from another department, if you had the time, to try to learn that independently. But there wasn't a lot of training or cross training offered or required. I think that would be beneficial, so that people have an idea of what other people go through on a daily basis, and really get that bigger picture instead of being siloed, and only trying to solve for their own specific issues. (P06)

Timing for the implementation of a technology is a key component of the change process based on experiences shared by participants in this study.

> What happens is when technology leaders set these grand dates out there, they look good to start with. But the reality of planning to get there and what it takes to plan for that date, I think is a little maybe, it's not done, in my opinion, in enough of a formal way to get to realistic dates that the teams can then rally behind. (P11)
>
> They feel it could be done in a year to where the reality is probably might be something that takes four years to deliver. That doesn't mean that you can't make incremental changes to the overall goal. But it's something that in reality has to come back and figure out how and what can actually be done to make those forward moving changes in the reality that you sit in. (P12)

P03 shared a similar experience. “We were always working toward a certain target date and having to either run toward that date and nail it, or have to say, Whoa, this is not going to work in that timeframe, and we need to push out” (P03). P08 also shared, “the business or project teams having tight timelines, not necessarily transparent as to why those timelines were there, made us push technology to the brink sometimes.”

During an implementation, there may be “a lot of very rushed completion [where] things weren't thought out in a timely manner” (P06). Other challenges may arise if “you have a specific problem you didn't forecast to have or you didn't expect to have, … you're going to [take a] longer time to solve that specific problem” (P02). P15 shared an experience where “training might've been rushed, which I think all boils back down to we had to hit a certain timeline.” Technology implementations can span long timeframes, per P17. “A lot of times when you look at bigger changes, it's a year. Then if you're talking about actually organizational change and driving that process, that's a multi-year

approach" (P17). According to P18, "those have probably been the most difficult things for us with these technology projects. They're long, they're complicated, they're complex." P14 shared an experience, explaining the pressure the team was under.

> I do think that there is a lot of optics and political positioning within just the technology organizations and security organizations in general relative to what can and cannot be deployed, increased pressure to deploy things faster, potentially cutting corners in different areas if possible. (P14)

Due to the importance of meeting timelines and overall communication, managing expectations is an important aspect to keep in mind. P04 expressed a preference "to be able to definitively state what was possible, what wasn't possible and come up with our tentative plans of action to address our requirements." Managing expectations is important across the project teams, including impacted parties and leadership according to participants' experiences. "It's something that just takes additional time and explanation for the whole audience to understand that the technical background as to why or why not something could be done" (P12).

> That being said, it was awful when things were promised to leadership, that were out of our control, that we could not accommodate. And so then things were de-scoped out of the project because either the expectation wasn't managed properly by the vendor providing the product, or by the partners helping with implementation. And so, the flip side of being able to solution creatively and come up with really great tools to help employees, was at the same time hindered by the expectations that were set toward our leadership team. (P03)

You might not be able to have the Cadillac when you go live. For the first time, you might just have the...I don't even know what, the Corolla, which is a car I really liked. So don't expect the world. You might just have to start slow and then continue to build. Because if you'd promise the world and you don't deliver, your stakeholders will be disappointed. (P15)

I've become a little bit more blunt, I would say, right? To me, I'm a very, I try to be very logical person, right? So if my business comes to me and says, you know what, I need you to work on this. It's the most important thing that we have to do. And then I think the easiest way to combat that is to say, No problem. Since I didn't hire anybody today, right? Which of these other 10 things are now less important that you don't need me to work on? Right? And it's kind of forcing the discussion in a friendly way, which is, I'm not just going to say no to you. I'm going to say yes, but I'm going to force you to kind of buy into the change too, right?" Because they have to kind of accept what that change means. So that change means I'm going to work on this for you. But that change also means that I'm not going to work on that. So, I think there's kind of two sides to the change coin. (P13)

There're different variables that are involved with a modern technological transformation. I think again from the security perspective, always happy to jump on board and do the right thing. I think overarchingly from an organizational perspective, it's really about making sure you get the right people and that you're

setting expectations appropriately relative to the capabilities you're deploying. (P14)

Managing expectations may also correlate to requirements that exist outside of the direct project planning process, but still requiring completion like the process described by P11.

> My challenges are making sure that the project teams can meet the requirements of our second- and third-line partners. Meaning they provide the documentation that has to be, that has to go through a formal review and challenge process with second line. So they kind of farm it out amongst all the risk disciplines, collect it back and feed it back into either myself or one of the other work groups. And then really the challenges is then getting each of the functional areas to respond to the review and challenge and get sufficient information back to them. The other challenge really is around internal audit, where they have to be at arm's length. They should be, right? They're performing an independent audit on the pre-implementation, all the documentation. But oftentimes the documentation is not ready, right? Because we're still iterating through defects or what have you. So there's a little of a tension there, which is, I think healthy, but the project teams are focused on getting to a point where they can be penciled down and really don't even think about the fact that they have to provide documentation for our internal auditors. That's a little of the tension within that part of the work. So, it's necessary, but it can often distract from the core, the core goal of the project, which is not to supply audit material. But it's necessary. (P11)

When expectations are managed proactively, “there's no disappointment, nobody questions why we got to where we're at. And I think that really helps lead towards the success in the end” (P17)

Process improvement through a technology implementation project is a key component to defining the scope and goal of the project. P07 explained,

> Companies have no choice but to update their systems, their technologies, their platforms, not only to the customer experience aspect, but from an employee engagement aspect. To give people the tools to do their jobs effectively, productively, efficiently, which ultimately gives them more satisfaction on the job, allows them to become wealthier in the case that they're a salesperson, for example. They can sell more in less time with better tools. The benefits are tremendous, but companies have to get their heads around making those tough calls. (P07)

P17 suggested “you're going to change; you're going to get smarter. Your needs are going to differentiate as you go along. You need to have the flexibility to shift a little bit.” P10 explained “it might be a little bumpy early on, but the quicker you jump into the new process, I think the quicker you'll see the benefits from it.” P16 was involved with developing “a brand-new payment process and having that payment process be literally new to the entire industry…caused much more headaches, much more discussion as it should.”

Once an implementation is complete there is a level of accomplishment “when you actually, deliver something to an end user and you see it on their face, they're like, oh

this is actually pretty cool," as in P13's experience. An example of that could be when "task level work to be done by a human that doesn't need to either ever go into a work queue or can be done by a robot, a bot rather than a human," as described by P11, where the user sees the value of the implementation. P01 explained, "even though my role was very small, I felt like I was a part of this great effort to make this change that was supposed to make everything better."

To aid in process improvement, some participants have expressed a desire to be involved earlier in the project planning process. P02 explained, "the most important part of the project is to have people in the same page and negotiate in advance to implementation." P01 expressed a desire "to be involved earlier in the process though, and I would like to give more input into how we are going to structure the entire process." P09 explained that being involved earlier aids in knowing sooner when things may not be done appropriately and be able to make adjustments prior to implementation.

Ultimately, the planning activities should be aligned to overall strategic priorities. P07 said "let's see if it balances out with what's in our broad strategic interest" when considering an innovative technology development or implementation. There may also be aspects of a project that end up eliminating roles, due to streamlining activities. P09 expressed a desire to have that information available up front. "I t's okay to be upfront about that and to say, well, here's the deal. We're going to give you retention bonus for sticking, but you do know that we're going to be having you dig your own grave. I know that sucks." P17 also explained where it relates to groups that do not necessarily generate funds for the bank, "sometimes a very essential group that spends money doesn't make

money, is really reliant upon the budget that they get from the overall corporate side of the house." It is important to consider the overall strategic priorities and weigh those with the activities that support the strategic direction.

Execution. During the execution of a technology project, the change management process that is utilized is a key component. The change management process includes project management and the supporting processes. "How the project is organized as far as responsibilities and duties…is extremely important" (P05). P12 explained "if you don't have a proper project or product management established, you're not going to get the right requirements delivered." P06 provided a perspective on change management in the banking industry.

> I took away an impression that the banking industry as a whole, within that organization specifically, and spread out from what I had heard from other individuals that came from other banks, it's kind of all the same scenario, where everybody is kind of doing their own thing, and nothing is very well structured. (P06)

P04 expressed the importance of identifying responsibilities.

> What I've come to find on projects like this is that you'll get a lot of great minds in a room together, but when it's time to actually do the tactical work, most people will back away from the table and try to swing the responsibility over somewhere else. (P04)

Similarly, P08 expressed challenges with a change management process to capture the needs within the process with enough clarity for each group.

The change process at banks is “definitely a cumbersome process. It's not a lightweight, agile, easy to get through process to drive change” (P17). Prioritization is challenging, according to P16. “From a banking perspective, prioritization is, it may not be the most important thing in most folks’ minds, but it ends up being the most important thing in order to get something actually implemented” (P16). P03 had a positive experience with the project management process.

> I would say the quality of the project management really stood out for me. Managing expectations, as we could meet or not meet milestones. That really left an impression on me, because we were always working toward a certain target date and having to either run toward that date and nail it, or have to say, Whoa, this is not going to work in that timeframe, and we need to push out. (P03)

Two of the participants in this study shared experiences specifically related to utilization of a project management office to aid with the complexity (P05, P06).

> We've also developed our project management office and codified a lot of that a little bit more than we had when we did the implementation three years ago. So that's helped as well in helping I think everyone in the organization top to bottom to understand why you're here, why are we asking you, why is it important. (P05)

P06 recommends “having a PMO office, or project management office, and having that very strict, regimented methodology to address regulatory needs, and changes, and any technology that needs to be implemented because of those requirements really would be beneficial.”

Even if a formal project management office is not in place, the processes to manage the change are very important. P13 shared, “in my current position, the business folks that I'm working with are very supportive of technology and they understand projects and they understand kind of the highs and lows of projects.” That experience, however, does not seem to be the typical experience of participants in this study.

> I felt the team that was responsible for the change management was also rushed into recording, building out how the process should work in tests, but it never really matched up to what the users needed. I thought that the roll out was well planned in terms of making people aware that we were taking down the old system, bringing up the new, work of communication there. But people were sequestered for quite some time to make sure the testing was done. Even if the testing wasn't truly thought out well because they all had to share the same logins and our implementation partner didn't seem to get overly concerned with the various testing that needed to take place. So I thought that that could have been better as well. (P15)

> I would go back to just trying to stay away from the whole theater part of it, a lot of times when you look out and I get it, you want to get the brand out there and you want to do things, I'm trying to stay away from the theater part of it and actually get more into the doing. I'm definitely more interested in rolling my sleeves up and getting something done than I am to just sit around and pontificating and talking about it. Ultimately, you've got to have an execution mentality and stay away from sort of the theatrics around, oh, how great is agile?

> How great is innovation? How great is all these other different things? You actually have to do it. (P14)

It seems some participants are experiencing positive progress in change management processes as well. P18 explained “the project methodologies that we used, we shipped it from like a waterfall methodology to an agile methodology. So that made it a little more complicated as well as we were going through transition in this time period.”

Approaching change from a position to remove ambiguity may also be helpful, according to P10. “I had a previous employer, there was decision makers who made the changes and it was what you went with. And I think it was very clear as far as, this is the change, this is why we're it and this is how it's going to be” (P10). Change management process should also include steps to ensure challenges are not inherited through integration processes because, according to P09 related to an experience with contractual obligations, “if you don't get it right, you get all the pain, you get all the pain.”

Even if the most effective change management process were in place, the appropriate resources need to be allocated to ensure the project is successful. P05 explained, “if you're running, as most organizations do multiple projects in tandem, if you're relying on the same 20 SMEs to run all of these projects plus do their day job, that's just not reasonable.” P13 shared that changes in priorities may also impact resource allocation. P12 had a similar experience.

> The first release we were aligned, we were collaborative, we knew what we were doing, and we were able to service that scope in the proper manner because of those changes. The lack of resources beyond that point, it did cause issues as far

> as what could be delivered and when. And from an understanding from either the business, the product side, but also from the technical side was missing. And the good part about it is it was something that was addressed. It was something that became aware. It was an awareness within the organization, and it was re-evaluated for proper alignment moving beyond that point. But it was something that did cause some delays for delivery. (P12)

P09 shared an experience where there was an elimination of resources eight months into the project "due to budget constraints on the technology side" which may also lead to project delays.

Another consideration for resources is offshore resources that are utilized. P18 explained "we depend heavily on consultants…so we got the constraints with the timelines. It's night there, it's day here. Just working around the clock kind of thing is always a constraint for us." P11 has experienced a similar reliance on offshore resources.

> I think that the other thing is, is that most technology organizations have both onshore and offshore resources. Right? So there is a bit of... Like logistically, it's a bit of a, you just have to figure out logistically how you're going to manage that. Right? Because oftentimes…the time zones are completely whacked between the two. But then there's also this component of, what are we asking people to really do and sacrifice. And that should be a part of the equation about either planning, setting timelines or really the impact rather than only the financials. Right? Because eventually, if you get to the point where people are so burned out, it's the law of diminishing returns. (P11)

Sacrifices can also be necessary when prioritizing activities. P05 shared, “you need to prioritize things accordingly. And if that means either delaying something or bringing in another person, make the sacrifice at the get go and it'll make everything a lot better in the long run.” There are challenges with finding the expertise needed, depending on the type of technology being implemented.

> I think finding talent, is challenging, right? When you're talking about transformations to some of these more modernized computing paradigms whether they be Cloud, micro-services, API, whatever you're talking about. I think a lot of times the challenges are about getting the right talent onboarded to actually implement those things. (P14)

Leaders that are stakeholders in a change project have many aspects to consider when making decisions. P12 shared “there are times that there is support required from those from the leadership teams to make decisions related to products or when things may go in.” P08 explained “the lack of a central repository or post for key decisions made and a communication effort to keep people aligned and on the same page as you move forward in something of that size, was a real hindrance.” P06 shared a similar experience.

> Then really just getting the finalized approvals and decisions documented, a lot of times it was a verbal approval, or a verbal discussion, and the person in the meeting says, yeah, let's do that. But there was no follow-up with documented approval, or signatures, or any kind of sign off, via email, or anything that can be tracked. (P06)

P04 experienced that a lack of repository caused challenges with newer project members being unfamiliar with decisions made earlier in the process.

There are times when leaders make technology decisions that do not seem to align with the strategy. P04 explained that there "seemed to be a better product to work with from a technology perspective. However, due to the relationship…already in place elsewhere" the business decided to move forward with another technology solution. P17 explained that leadership decisions have been inconsistent, further supporting the benefit of a repository to document the reason behind decisions made. P16 experienced turnover leading to losing the background on previous decisions as well. In the absence of leader decisions, P03 "always wanted to make sure that whatever choices were being made, were sustainable decisions going forward." In P05's experience leaders asked, "well why was this decision made?" and the response they shared was "well you didn't want to help us make the decision when we did this, so we made a best guess effort and unfortunately none of us had experience with that."

When problems arise during an implementation, it is important to solve the challenges in order to keep moving the project forward. P02 shared, "[if] you have a specific problem you didn't forecast to have or you didn't expect to have, okay, you're going to [need a] longer time to solve that specific problem." Problems that arise provide an opportunity to develop creative solution, as experienced by P03. "It really taught me how to probe into what the client is asking for and figure out, exactly what is the root issue, and then think about creative ways to solve those problems, using the technology

that we had" (P03). The proactive approached to change management previously discussed may aid with problem solving down the road as well, per P05's experience.

Resource allocation may also be impacted by problems that arise during an implementation.

> If we've got an incident going on and I need the talent to handle that's doing a change the bank function, and I need that talent to actually deal with an operational issue, you better believe I'm pulling that talent to deal with something that could, impact the security posture of the organization in general. It is stressful, you have to manage it appropriately. You got to have good people. Ultimately, it's really a day to day balancing act. (P14)

While balancing business as usual needs with important technology implementations, P08 explains that it is important to share ideas because "you don't know who's sitting in that room, so the executive might not do anything with it; they may, but somebody else in that room who knows you or knows the world you work in could take that issue or that challenge and do something with it." The impacts associated with problems that arise during a project include overall spend. Any ideas that may aid with eliminating costs would likely be welcomed by leaders.

Project challenges and delays may have an impact on overall project spend, which tend to be substantial. P11 explained "there are financials tied to those deliverable dates, both in terms of the expense of the technology implementation, as well as then the benefits side, right? Because we're only installing new technology if we think we're going to get a financial benefit from it." More complex projects then to have a "much higher

dollar amount attached to [them]" (P16). P07 shared the following perspective, "banks continue to make the same mistakes that they think they have to build it all themselves. If they can't build it, then they need to buy something and overpay for something;" however P09 explained an experience where "it's all about cutting costs, getting faster, better, smarter."

Although the perspectives from P07 and P09 seem to be different, perhaps they are instead similar. There are opportunities to engage vendors to assist with reducing cost. P07 further explained, "the best approach is to partner with Fintech or technology companies. It's cheaper. It's more efficient. It's faster time to market, and that's the preferred approach. Partnership is the answer, in many cases." P03 shared some advice when evaluating vendors.

> I would challenge the leaders to, when evaluating vendors, first off, not take what the shiny thing that comes out of the box. Whatever the product is, or the solution is, to not take it at face value. Because when vendors are showing you their product, they're obviously showing you the happiest, best version configuration for their fictional company that doesn't exist, that doesn't have the nuance or complications of a multi-billion-dollar bank. (P03)

P03 also suggested "into consideration, the culture of the vendors approach to innovation." P04 had an experience where there were "massive customizations that needed to be made" in order to get the solution to meet the business needs. P02 suggested, "my advice for implementing of technology in banking would be always to look for a third-party consultant that has no... [skin] in the game." Along those lines, P15

explained, “we had hired an implementation partner to help bring up the system, which I think is pretty common with these large technology implementations.”

There are challenges associated with engaging a vendor for a technology implementation. P18 explained,

> When we have to deal with a lot of external entities, it makes it very difficult. Primarily speaking because of, we don't have total control over the things that we need to get done because we have dependencies on other folks and they're not a part of our organization. (P18)

P12 also shared “if you do use any outside participation to assist with your delivery, meaning like contracted sources, [make sure they are] fully aware of what you're trying to accomplish and when.” It is also important to keep in mind that “there's also a third-party optic to this where if you're outsourcing a lot of these capabilities, you're taking capabilities that you would potentially deploy and you're trusting somebody else to do it. Then you get into third and fourth and maybe even fifth party risk” (P14). As a bank in a heavily regulated environment, considering that aspect of utilizing a vendor is important.

The regulatory environment is an important consideration for all aspects of a technology implementation. P06 said, “one of the things that, with a banking environment, is you have the regulations that kind of get disseminated through the organization, and you have to act quickly to get those solutions built.” These regulations can directly impact spend and timelines. P08 asked, “as you know as well, even as we deal with the regulatory maze that has come out of Washington since the collapse, you still have to ask how is this helping our customers?” Regardless of how any individual

would answer this question, the fact remains that banks cannot circumvent the regulations that are in place. P18 explained, “we're dealing with some of these large projects. We're dealing with governmental agencies.”

The regulatory environment can add to the level of complexity. P09 shared that there has a great deal of “regulatory change over time.” P17 explained, “there's a lot of good reason for that, for the governance that's required, …the potential risk if things don't go quite right.” “Because we're highly, highly regulated, so we have to be able to be audited and tracked for everything” (P13). P14 shared,

> These modernizations where you have regulatory oversight that may have never been exposed to this before and they are late in providing guidance and, or guardrails relative to the regulatory mandates that they put out. Trying to make sure that you're balancing sort of the regulator expectations and security versus, what you're doing, that's challenging. (P14)

There are business partners that have the expertise to guide the project stakeholders on the regulatory requirements, like P11,

> My role in technology implementations is to align our regulatory and compliance requirements. You know, to bring those forward and make sure that the technology either is supportive of those regulatory requirements or if it's not, make sure it's not in conflict with those requirements. And supplementing through, maybe add on automation to the base technology, to sell for the regulatory requirements and or working outside of the system. So more from a

> how does the system enable us to perform our requirements from the federal government or the state government. (P11)

The post-implementation environment is an aspect of execution that should not be left unexplored, as shared by P02, because post-implementation challenges may take place and cause issues. P01 shared that there were challenges getting partners to support changes that were made because the implementation led to making things confusing for the end-user. P05, P09, and P18 shared similar experiences.

> I think one of the things that a lot of organizations that I've dealt with don't do a very good job on with projects, on at least from a staffing perspective, is once your project closes, you've implemented your new technology, you take a couple of weeks and then it's like, okay, everything works. We turn it over to support or whatever and everyone goes on their merry way. (P05)

> The journey is not over when you hit conversion and everyone's cracking champagne. The journey is, the hard part, the journey is ahead because you know what, we bought this thing for a song. Love it. Great. But you know what? We've got a lot of lumpy issues in the system. (P09)

> I think a lot of times you'll have a set number of resources to finish and complete a lot of these implementations and by the time that implementation is done people have moved off or moved on to bigger and better things, I guess you can say. And you're not really necessarily, you haven't necessarily planned for resources moving like they do on some of these projects. So, making sure that the leadership

> understand, again, the complexity. It can make the project more difficult to complete. (P18)

P12's experience agrees with P05, P09, and P18. "When you get over to the actual point of implementation that you have the proper resources available upon delivery" (P12).

Experiences. The experiences within this section are based upon the lived experiences of participants' that were not specific enough to fall into a more functional change management category. The experiences of participants specifically related to the change management process is an important component of this study, as it really focuses on how they experienced the change, what they enjoyed, or what was challenging for them. Some of the experiences may cross over previously described codes, which is why this section was left for the end of the Change Management theme section.

According to P02, "technology is more easy to understand sometimes than people." P14's experience agrees. "It all boils down to people, process and technology, I think it's more on the people side than anything else" (P14). There are a multitude of ways that people-oriented challenges may arise. P09 shared an experience where people were not open with one another in regards to challenges. P04 also shared where people did not engage appropriately within a project when they were needed. P03 explained, "so the conflict there and just personality conflict of people."

According to P07's experience, "a lot of that is actually around what I call the soft skills or soft power. So in effect, the new technology is the hard power. The soft power is actually getting people to buy into it. And that's actually the hardest part." If you are unable to convince people to buy into it, as suggested by P07, "in the end, no matter what

you get, you're going to end up where folks are still questioning it and a lot of times that can dilute the value" (P17). According to P12,

> What stands out during that process, I would say probably to me it is almost a people factor. And the reason why I say that is because without the coordination of all the efforts that take you to get from point A to point F all the way through implementation, if that's not coordinated correctly, it's not going to be successful. (P12)

P13 shared, "sometimes it gets frustrating in IT because I tell people all the time that if you come into IT to kind of get slapped on the back and to tell everyone to tell you how much they love you, this is the wrong business to be in." There are opportunities for improvement, according to P08's experience.

> You've got to break barriers, you've got to grow your culture, you've got to let people struggle together, but let them know they're on the same team. I think that's one of the experiences from these technology implementations is the human side of it and the people that can help make these things go and that's about it. (P08)

When challenges arise with individuals within a project, it may lead to expanded responsibilities. P05 explained "I think what stands out the most to me is just the sheer volume of work and learning that we all did in roughly a six month period, and how much all of us grew in our skills and abilities in that period of time. It's just phenomenal to me." Others may not have such a positive experience. P04 explained, "from outset there was a discord between the three project managers each trying to figure out where

their responsibilities began and end. Especially when you have processes that overlap and bits that touch." P02 experienced challenges with technical partners that led to an opportunity to get more involved.

> I found out that the best way to deal with IT when they don't do what they're supposed to do for whatever reason, for whatever reason, because they don't have the time because that's against Their interests, because they don't have the capability or the knowledge at the moment, or they cannot deploy their resources, the best way is to do their job. (P02)

P02 expanded on the situation by sharing, "okay, you don't do it, I'll do it for you. Okay? Very quietly, I'll do it for you. And when they found out that someone is doing their job, they immediately react, and they start doing their job."

Additional challenges that may arise is new technology develops may not be used if they do not meet a need for the user, as per P01's experience. If people do not support the change "the technology actually further hinders the process" (P11). "If you want a new technology to be implemented, it's not only about implementing the technology. It's also about getting the people using that technology" (P02). One way to eliminate the ability for users to work around new technology is to not allow the previous process to stay in place, "as opposed to having wiggle room, leaving questions in folks' minds of, okay well this new process, but I could still use the old process because it's still available to me" (P10). P16 explained, ""the biggest challenge…when we got done implementing it and it was available in market, [was] getting corporates to change their behaviors to adopt the product that we just launched."

In addition to working around the people related challenges, there are technology-oriented challenges to overcome as well. P02 shared if there are significant challenges with a software with a technology deployment, the project may have to decide whether to switch to a different software. One positive thing, according to P15's experience, is that continuous improvement over time can aid with overcoming technology challenges as well. Of course, leaders play a role in supporting potential solutions, as in P18's experience. P12 shared, "the good part about it is it was something that was addressed. It was something that became aware. It was an awareness within the organization, and it was re-evaluated for proper alignment moving beyond that point."

P07 shared, "well, I've learned a lot of lessons. Those are the lessons in terms of how to get things done." It seems numerous participants share that sentiment. P05 explained, "There's not a very good job done of evaluating, Okay, what went well? What didn't go well? What could have been done better? What lessons did we learn? So that you can have, and hopefully effect better outcome on future projects." P01 described, "no one asked those of us who were in the thick of it, you know, what our experiences were like and what, you know, insights we might have into how the process could have gone better or how we could maybe do it better next time and things like that weren't really." The perspective P17 shared was, "you're not building a nuclear reactor. You're putting in a process or a tool, and you're going to get smarter as you go along." P18 said they "always kind of take the lessons of one project and carry them forth to the next one" and suggests that others do the same.

Through the analysis of the data collected for this study, it is clear that insight into challenges with an implementation can be gained through conducting interviews. P02 shared, ”it’s important to have feedback from people familiar with the technology to provide insight into common challenges.” P13 explained, “you know, banking, there's kind of that general thought process that people have now with technology, right? And they just say, oh, I should be able to get an app for that. Or I can download that from the cloud or whatever it is, right?” Participants in this study have suggested several areas for improvement that align well with the categories and codes discussed in this section. P14 and P17 suggest being open about upcoming changes either project or organizationally oriented. P01 shared, “better planning and better communication, more transparency, more opportunities for collaboration and feedback.” P10’s feedback agreed with the point about improving communication.

Technology Selection

When exploring the implementation of innovative financial technology, the selection of the best technology is a theme that quickly emerges due to the nature of the phenomenon being explored. The Technology Selection theme was not separated into categories due to the small number of codes that emerged from the data. There are seven codes that correlate to the Technology Selection theme.

Code Analysis

The code usage is important within the Technology Selection theme due to the low volume of codes. Table 5 includes data related to codes and the usage of each within the data analysis results. The most used code is Understand Technology Solution, which

is the seventh most used code in the overall study. The second most used code is Explore Better Tech Solution, which correlates with experiences that include exploration of technology solutions or a desire to explore better technology solutions. The third highest volume code within the Technology Selection theme is Inadequate Technology for Project. Figure 3 provides the volume of codes in a column chart format.

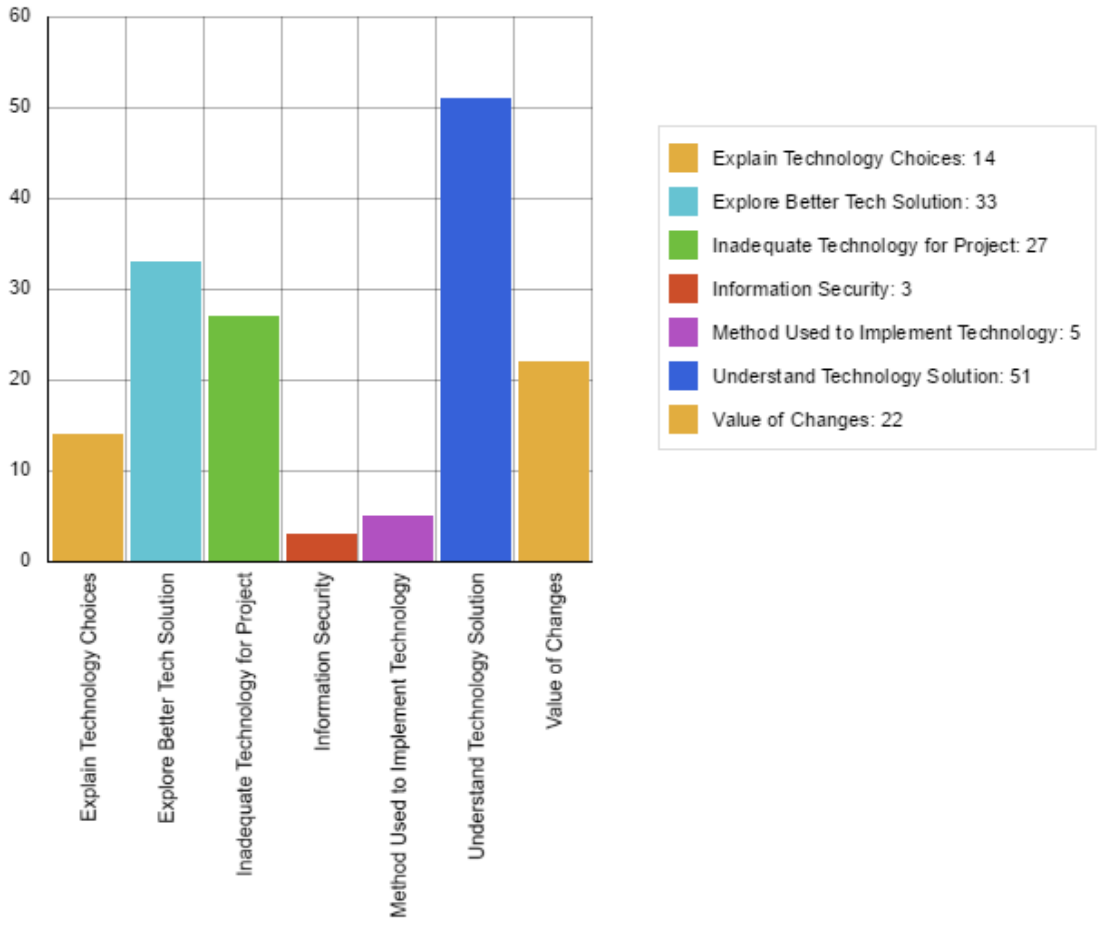
Table 5

Technology Selection Theme—Codes and Usage

Theme	Codes	# of uses
Technology selection	Understand technology solution	51
	Explore better tech solution	33
	Inadequate technology for project	27
	Value of changes	22
	Explain technology choices	14
	Method used to implement technology	5
	Information security	3

Figure 3

Technology Selection Theme—Seven Codes



Discussion

The selection of technology for innovative financial technology implementations is a critical component. Of the participants in this study, 17 of the 18 had experiences that correlated in some way to the Technology Selection theme, with the topic the topic was approached in multiple ways based on each participants' lived experiences. The codes within this theme will be explored individually due to not utilizing categorization. Although the second to least volume codes is associated with the Technology Section

theme insights can be gleaned related to how to approach selecting the technologies when approaching innovative change in the banking industry based on the participants' experiences.

Understand Technology Solution. "If you don't know the technology you're implementing, you're not going to be able to implement" (P02). Although this statement may seem self-explanatory, the participants of this study experienced challenges related to understanding the technologies that were either in place or were being pursued. P06 explained,

> So in the organization, there are a ton of programs. A ton of different programs that all kind of do the same thing. So you might have an application to do servicing. You might have a different application to do the same thing in default, and you might have a completely different application to do the same thing in IT. There is a lot of different tools, and a lot of different technologies that do the same thing. Unfortunately, they don't talk to each other. So it can cause a lot of strife when you're trying to solve for something that is cross functional, or cross departmental, or cross service line. (P06)

The same experience was shared by P12, who explained "with applications the one thing is that financial institutions tend to have multiple applications that service a specific product." Along the same lines, P18 also shared "what stood out is the complexity and the tools."

There may be instances in which explaining the complexity to others may be difficult, as P13 described "it's kind of hard sometimes talking about the complexity of

what has to be done to an end user." Even though it may be challenging to explain, P12 provided insights into benefits to involving business partners in the testing process,

> I do think that testing the testing efforts with those initiatives are very important and part of that is understanding beyond the just general like user story or a requirement of how that needs to be tested. I did find that there is a knowledge base that sits in with the business and the product owners as well that is very beneficial to at least go through testing efforts to make sure they're completed. (P12)

In P08's experience "you need voices who understand the detail and truly understand the technology requirements of a project." Although the business may not always understand the complexity of the network of technologies, as in P13's experience, they may be able to provide insight on how the technology would or would not work for their purposes, as described by P12.

There are positive effects of learning the technology and better understanding the usage. Although further touched upon within the Employee Engagement section, exploring the technology may aid in positive experiences for employees, as in the case of P18: "Probably the most interesting thing with technology projects for me, again, is understanding the complexity of the tools that we're using." P11 has experienced transformation in thinking, sharing "I have really been challenged to think differently about technology and how it can enable an operational process." P16 would like to "urge those folks to actually understand not just the products but the potential value of that product." Additional positive effects may be enjoying the experience, as described by

P08 and P03. “Digging into the long hours that actually was uniquely challenging and fun and you got to learn of the technology, not just the user end user interfaces, but what makes the systems grow or go, I should say” (P08). P03 had an overall positive experience, expressing “I feel pretty confident about my knowledge around these tools. So I think it was an overall very positive experience for me.”

Explore Better Tech Solution. Similarly to understanding technology solutions, exploring where there may be better technology solution was a shared experience for several of the participants in this study. P03 explained “the key point, is being able to use that thought process and apply it to what technology do we have and what can it do.” However, P02 cautioned “you have to know that each case is different, you have to analyze very well what you are doing, the specific technology and the specific reality of your company before making a decision.” P01 shared an experience related to desiring exploration of different technology,

> I definitely feel like better planning and better communication, more transparency, more opportunities for collaboration and feedback from the people impacted by the change before the decisions were made on to just implement it whether we knew it was going to work or not or even if we knew it wasn't going to be the best solution, would have eased the process for the people impacted by the change. Or maybe, ideally, created an environment where maybe the change could have been delayed or maybe other technologies could have been considered. Maybe finding something better or even creating something ourselves that would be customized to exactly what we needed. (P01)

It is also important to keep in mind that customization can also create challenges, as indicated by P15. When deciding whether to build a solution internally or utilize an external solution, P04 shared the process that took place.

> Debriefing with the rest of my project team where we've talked about the pros and cons and while we all came to a consensus that it definitely seems like, at on the surface level, to be a better product, you still have to kick the tires and get in the back end and see what's really... How it really functions, truly functioning. (P04)

Several participants expressed opportunities to explore new technology instead of rebuilding functionality that is very similar to existing technology.

> I think that there's a lot of lost opportunity when it comes to change because I don't think people are actually thinking about the fact that it should be a change like operationally as far as how the bank operates as well as how their job operates. You know, I think they view it more as automation than actually change. (P13)

> Banks continue to make the same mistakes that they think they have to build it all themselves. If they can't build it, then they need to buy something and overpay for something. The best approach is to partner with Fintech or technology companies. It's cheaper. It's more efficient. It's faster time to market, and that's the preferred approach. Partnership is the answer, in many cases. (P07)

> I think if you find yourself in a process where you're doing a lot of things that don't feel like they're adding value for the company or the end result, you really

> need to think of why you're wasting your time and maybe spend a little time trying to change the process. (P17)

Inadequate Technology for Project. Participants' experiences with inadequate technology have some commonality with other codes. It is important to call out separately because there were challenges specifically stated related to having technology in place that was inadequate, presenting a different perspective from the other codes. P02 shared that some people choose a technology that is convenient, rather than one that truly meets the needs of the project. In P01's experience, it was an experience of that nature that led to challenges in the implementation experience shared. P07 shared insights based on experiences with inadequate technology,

> The banks want to talk about the word transformation, for example, and all that is is just a fancy marketing term for let's just throw more money at old systems and call it a transformation versus actually structurally rebuilding how the bank is built to serve customers. (P07)

P04 also noted that due to first selecting inadequate technology, the project team "made the decision that [they] had to build another application." It can be the errors in business functionality, as also described by P03, that can create significant challenges within an implementation.

Value of Changes. "You should always do what's in the best interest of the enterprise" (P04). There are, however, experiences shared by participants of this study that perhaps the value of the implementation may not have been clear. P11 shared an experience where the goal of the project was to "install new technology, the benefit really

[was] making jobs easier and creating straight through processing, eliminating tasks that a human has to interact with." Implementations do not always end up executing as intended.

> So while everybody has good intentions, it's not always the best outcome, or the best use of time. We have a lot of, again, technologies that are out there, that could be leveraged, that just aren't being leveraged, and a lot of home-grown stuff, too. So in X Bank, there was a lot of home-grown applications, custom solutions that were put in place, just to solve for the one need, instead of thinking about continuous improvement and scalability going forward. So that was a realization I had early on, that within that kind of business environment, that's the way things were. While I didn't agree with it, and my business process would always be build something that's scalable, and maintainable, and something that can live for a long time. That's not something that everybody else does. (P06)

P11 suggests "thinking holistically about how you engineer an operational team in a way that lets people do more valuable work and lets automation do the less, the more task oriented or mundane work." Getting "down to what business problem you're solving" is important, according to P13, to ensuring the value of the change is known. P17 also shared "if you find yourself in a process where you're doing a lot of things that don't feel like they're adding value for the company or the end result, you really need to think of why you're wasting your time." Per P16, keep in mind that "if people don't understand the first five minutes either what that value could be, through talking about the opportunity or the obstacles, you're going to lose them."

Explain Technology Choices. It is important to have partners available to explain the technology options available, per P04's experience. P10 shared their approach to be "very clear with the communication of what we expect, to explain the "why" behind what we're doing." Similarly, P16 shared the lessons carried forward from previous experiences. "I think the biggest thing is whenever I approach a new enhancements, innovative thoughts or products and I'm trying to tell somebody about it, I used to always start off by a problem statements and then the solution." P02's advice is to "prove them that's the right way to go, then you're going to have them on board, and they're going to be willing to train themselves in that new technology."

Method Used to Implement Technology. Banks "have too much infrastructure to be as nimble as say, a FinTech," according to P11's experience. P08 urged bank leaders to "stop relying on major implementations of technology to solve issues or even technical issues that you could probably be better served in" and instead utilize the agile methodology for implementations. P12 shared experiences with "on the fly cloud-based changes" and the ease of use but explained that financial institutions are not utilizing these technologies. As a result, there are opportunities to advance in the method to implement technology solutions.

Information Security. The information housed within systems at banks contain sensitive information about customers. P02 expressed, "information is even kind of more critical than it is perhaps in other industries. People used to say information is power, right?" As a result, the security of information can be an important concern. P13 shared an experience related to retiring a server no longer needed and due to the focus on

information security, the unused servers still connected to the network created notifications of violations that were contained since the server was not in use. The point of the example is “sometimes things that in a big company that are simple to do, ended up taking a very long time. So, that is an impediment to change.”

Leadership Role

When exploring the lived experiences of participant during the implementation of change, the role of leadership during the change was a theme that emerged. The Leadership Role theme was not separated into categories due to having the least number of codes compared to the other three themes that emerged from the data. There are five codes that are associated with the Leadership Role theme.

Code Analysis

Since the Leadership Role theme has the least volume of codes, it is important to look at volume of use and the specific experiences of each participant. Data related to codes and the usage of each within the data analysis results for this theme is included in Table 6. The most used code is Management Alignment, which is the sixth most used code in the overall study. The second most used code is Differing Interests, which correlates with experiences that differences in or competing interests within the leadership team. The third highest volume code within the Leadership Role theme is Leadership Support, which is specific to experiences related to either having or lacking leadership support. Figure 4 provides the volume of codes in a column chart format.

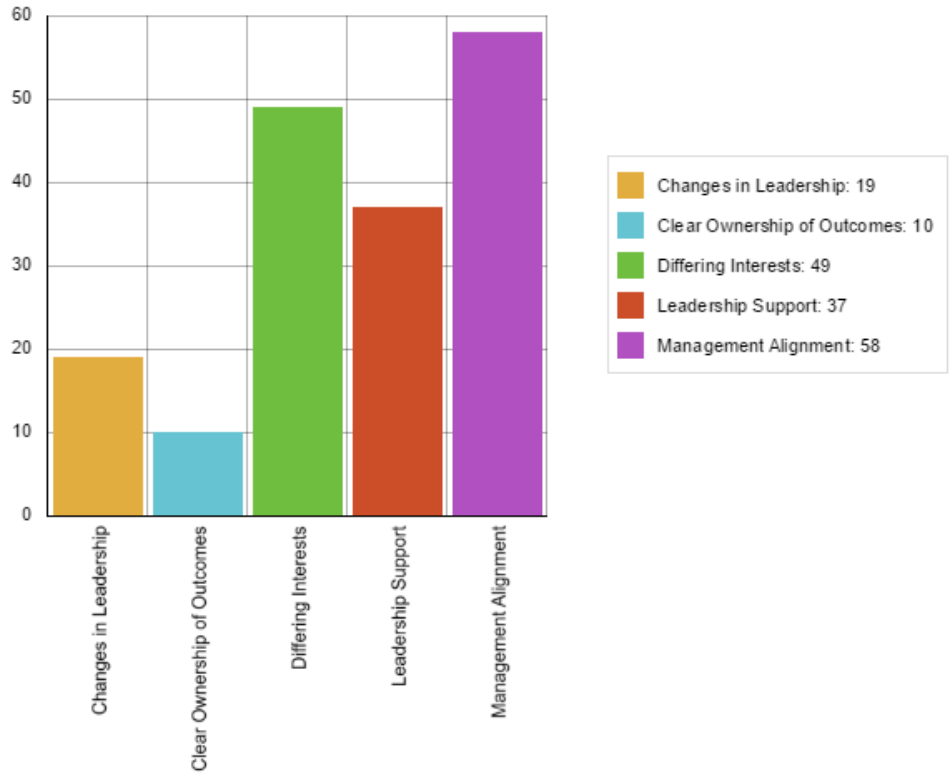
Table 6

Leadership Role Theme—Codes and Usage

Theme	Codes	# of uses
Leadership role	Management alignment	58
	Differing interests	49
	Leadership support	37
	Changes in leadership	19
	Clear ownership of outcomes	10

Figure 4

Leadership Role Theme—Five Codes



Discussion

The role of leadership during the implementation of a technology solution can appear differently in during projects, both smaller and large-scale. Not only is support from leadership important, but alignment among leaders related to the various aspects of complex change is also important. Lack of alignment or differing interests can have a significant impact on the success of a change implementation, as can changes in leadership during the course of an implementation. Each of the 18 interviews included the leadership role within the organization and during the change. Since there are no categories for the Leadership Role theme, the codes will be explored individually. Although there are the least codes associated with the Leadership Role theme, based on the participants' experiences, the implications of this theme can be a significant indicator of opportunities for improvement or consideration for leaders during the implementation of change.

Leadership Support. Feeling supported by the leaders within the organization is important to the participants of this study. There are participants that have experienced feeling unsupported by management during the implementation (P02, P05, P09, P12, P13, P17, P18). P05 shared, "One of the things that stands out to me in my interactions with it was I don't feel that we had the support in actuality from upper management." P09 described an experience when leadership was holding them accountable for activities not fully understood. "Although the executive team [was] looking at me with one eyeball and listening to my tech partners, were kind of like, okay, this is on you, me. But I'm like, wait a minute. There's a lot going on that I don't have a line of sight into." A lack of

support from leadership can lead to negative feelings related to the implementation, which will be covered within the Employee Engagement theme. P07 offered an explanation that sometimes “it's just some management who are hesitant to give up power effectively.” Conversely, P03 had a positive implementation experience with leadership, sharing “I was really fortunate to have a leadership team, who was very transparent with me about the decisions being made.”

Although most of the experience’s participants shared were negative, there was advice provided and lessons learned that they are carrying forward based on their experiences. P12 shared “is that there are times that there is support required from those from the leadership teams to make decisions related to products or when things may go in.” P13 experienced the change that a supportive leader can provide.

> I think one of the most important things about changes is the right manager. So I got a new manager about a year ago and she just is not willing to back down when she knows it's the right thing to do. She is willing to kind of take it all the way to the top and fight it and defend us. (P13)

P08 suggested leaders should “Just have a strong message and vision and navigate the teams that are making the implementation or change happen through the difficult waters.” P17’s perspective on leadership is “micromanaging is really not quite the way to do it. You should be the person that's helping, assisting, removing roadblocks.” P18 shares that perspective, explaining, “Now as a manager, which is the role that I kind of play now, I have to make sure that I'm there for my individuals, that the project managers and portfolio managers that are working on the project.”

Management Alignment. In P17's experience, getting "the right support from the various senior executive management" can help to "solidify on a vision to go forward." In addition, P15 advised that it is important to "make sure all those leaders are together and that there's a plotted list of what [they're] planning to do versus kind of winging it." P06 urged bank leaders to "think about what you're going to need for today and the future, and really communicate amongst each other" in order to help with alignment of priorities. This also includes providing the necessary resources to adequately support the changes taking place. During the implementation P08 described there was a "hindrance of leadership" related to utilization of resources from a specific team that "did not have the knowledge of the new workstation being built," which created challenges with the implementation.

The way management feels about an implementation may have an impact on how others perceive the change. P02 said, "I think that filters down, right? If they feel like that at the top level, it is going to impact the way others perceive it as well." According to P07, there are instances in which employees are more open to change than their management may be,

> It's fellow management who want to protect their own systems from, in some cases, automating their own businesses out of relevance or to change the way they work. It's the management that's threatened, not the employees. (P07)

Lack of alignment also presents itself between leaders and implementation partners, where leaders do not heed the advice provided, as described by P03,

> During the implementation is hard to know, for sure, whether or not that decision is really long term a bad idea, unless the implementation partner spoke up. So they were really helpful in saying like, "Ah, we've seen this done at other companies and we don't think that's a good idea." And yet the leaders making decisions will say, "I still want to do it. I don't want it that way." And then, six months later, we have to peddle back and say, "Well, that was really a bad call." We knew that in implementation… having to then deliver the message that we paid someone else to deliver. (P03)

It is possible, similarly to P04's experience, that it would be "pretty obvious back then, which was the better solution. And they still went the other way."

Lack of alignment among leaders can lead to challenges with an implementation. It is possible that there are challenges amongst the leadership, like P10 experienced, where "some changes struggled just because one line of business is all for it, and another line of business may not be all for it." P02 experienced something similar where the interactions among the leadership during the large-scale change "became like a personal competition between … the heads of technology." P05 shared "unless you've got the support and the buy in from your executive level team, you're not going to get anywhere. P15 shared some advice regarding a technology implementation, "Make sure all those leaders are together and that there's a plotted list of what you're planning to do." One of the consistent experiences among participants is that "you have to try to reach some point of consensus in order to move forward" (P04). P17 stated, "the one thing I've taken with

me is that the process that it takes to get everybody aligned. So when you start executing and deliver, there's no surprises."

Differing Interests. Challenges during the implementation of a technology solution may be driven by the differing interests of impacted parties. P03 described "competing interests within the project management team or within the implementation team" and P11 shared that may be due to "just an inherent difference in the way that people interpret their work." P02's experience aligned with P11's since "each person is going to have a very different response to the reality he's facing." P04 described an experience where "there were moments, especially in the beginning of this project, where the business overstepped boundaries. It interfered with our work, the way we do our work."

It is important to consider, as pointed out by P02, "if you try to implement a technology that is not the right one for your company, you're going to be in trouble, not because the technology is bad, it's because you're going against people's interests." The goals of those involved in an implementation "sometimes they don't always line up in terms of their objective or what the end product should really be" (P11). P17 shared that it may be difficult to obtain funds from the budget. Other participants explained,

> You have to understand that if you are taking more than your fair share better be a darn good use case for it and you also better remember who you're taking from so that they don't try to derail or have any sort of ill will towards the project. (P16)
>
> I used to joke that the head of our technology world was kind of like the mafia and that if you're on conference calls, if you sit, they can hear you, they're

> recording you, and if you're not, if you're not wise, you might wake up with a horse head in your bed. (P09)

Although P09 was joking, it clearly articulates based on P09's experience that differing interests can be very apparent when dealing with others that have a competing interest during an implementation.

Changes in Leadership. When there are changes in leadership structure during an implementation, participants expressed that it may cause challenges for the project. These changes may apply to functional management or project leadership. As indicated by P12, "breakup and changes in the organization [may take place] leading to changes as far as who was going to be staffed." Multiple changes may be disruptive to the project execution steps, as indicated by P01:

> "I was only on the project for a year before implementation and we had three changes in project lead during that time. So each time our project lead would change, the communication style would change. The energy level would change. The focus of our team effort would change and that was challenging as well."

When there are changes in the project, it is possible that resources either move on or request to be removed. According to P16, "I've been burned once or twice by a project manager leaving and it's like we have to start all over again from scratch and that shouldn't have to happen." P08 shared a similar experience where "senior leadership changed a couple times and there was a lack of transparency." Based on the lived experiences of participants, changes in leadership have been disruptive to their individual technology implementations. There may also be instances in which changes in leadership

may be beneficial. P07 suggests considering “getting new blood in there in addition to working with partners.”

Clear Ownership of Outcomes. Ownership of outcomes within a change implementation was a common thread among several participants in the study. P06 explained that “an awareness level, would be really beneficial” to those impacted by change. In order to influence that, P17 described how the role of leaders can assist:

> “I think that in any type of leadership role goes a long way to A) getting people being happy with what they're doing. And B) I believe you end up with a better end product when you have folks that have bought in and realize it's their vision coming to fruition.”

There have been instances where, as described by P01, “because the people impacted by the change felt not included in the process of developing the change, they didn't have ownership in the outcome and they were resistant to change, as many people are.” In P12’s experience “that the actual ownership really relied on the product manager,” however the clarity may not exist in each situation. Some employees, as in P06’s scenario, “never really get a true sense of what their work does. If you don't have that, you don't have value.” It can sometimes take for impacted parties to understand the value to help to drive engagement and ownership of outcomes.

Employee Engagement

This study focused on exploring employees’ experiences while participating in an innovative technology change implementation. When exploring participants’ personal experiences, the theme of Employee Engagement emerged. The Employee Engagement

theme is comprised of four categories: Participation in Change, Feelings, Consideration of Employees, and Benefits. Table 7 provides detail related to the total usage of each Category within the Employee Engagement theme.

Table 7

Employee Engagement Theme—Category Total Usage

Theme	Category	# of total uses
Employee engagement		625
	Feelings	255
	Participation in change	223
	Consideration of employees	86
	Benefits	61

Category and Code Analysis

Feelings is the most used category with 255 uses within the data analysis, with Participation in Change coming a close second at 223 total uses. The Consideration of Employees category correlates to experiences that include consideration for change agent, impacted parties', and other employees that may have otherwise been impacted by the change participants' experience and has 86 total uses. The Benefits category correlates to advantages to having participated in the phenomenon being explored.

Exploring code usage within the Employee Engagement theme helps to explore participants experiences related to the engagement of employees. Table 8 includes data related to Categories, Codes, and usage of each code within the data analysis results. The most used code within the Feelings category is Resistance to Change, which is also the tenth most utilized code in the overall study. The most used code in the Participation in Change category is Collaboration and Inclusion of Key Parties, which is also the second

most utilized code in the overall study. The most used code in the Consideration of Employees category is Consideration of Desired Outcomes, while the most used code in the Benefits category is Gained Knowledge or Transferable Skills.

The Employee Engagement theme includes two of the top ten utilized codes in the overall study. Figure 5 provides the top ten utilized codes within this specific theme. The third code was Gained Knowledge or Transferable Skills. Awareness or Involvement in Change was the code with the fourth highest volume of usage in the research. Consideration of Desired outcomes was sixth most utilized. The Positive Experience code and the Difficult or Stressful code were fifth and sixth, highlighting feelings described by participants in the study. The Challenging Experience, Perception of Change, and Cross-functional group codes round out the top ten most utilized code within the Employee Engagement theme.

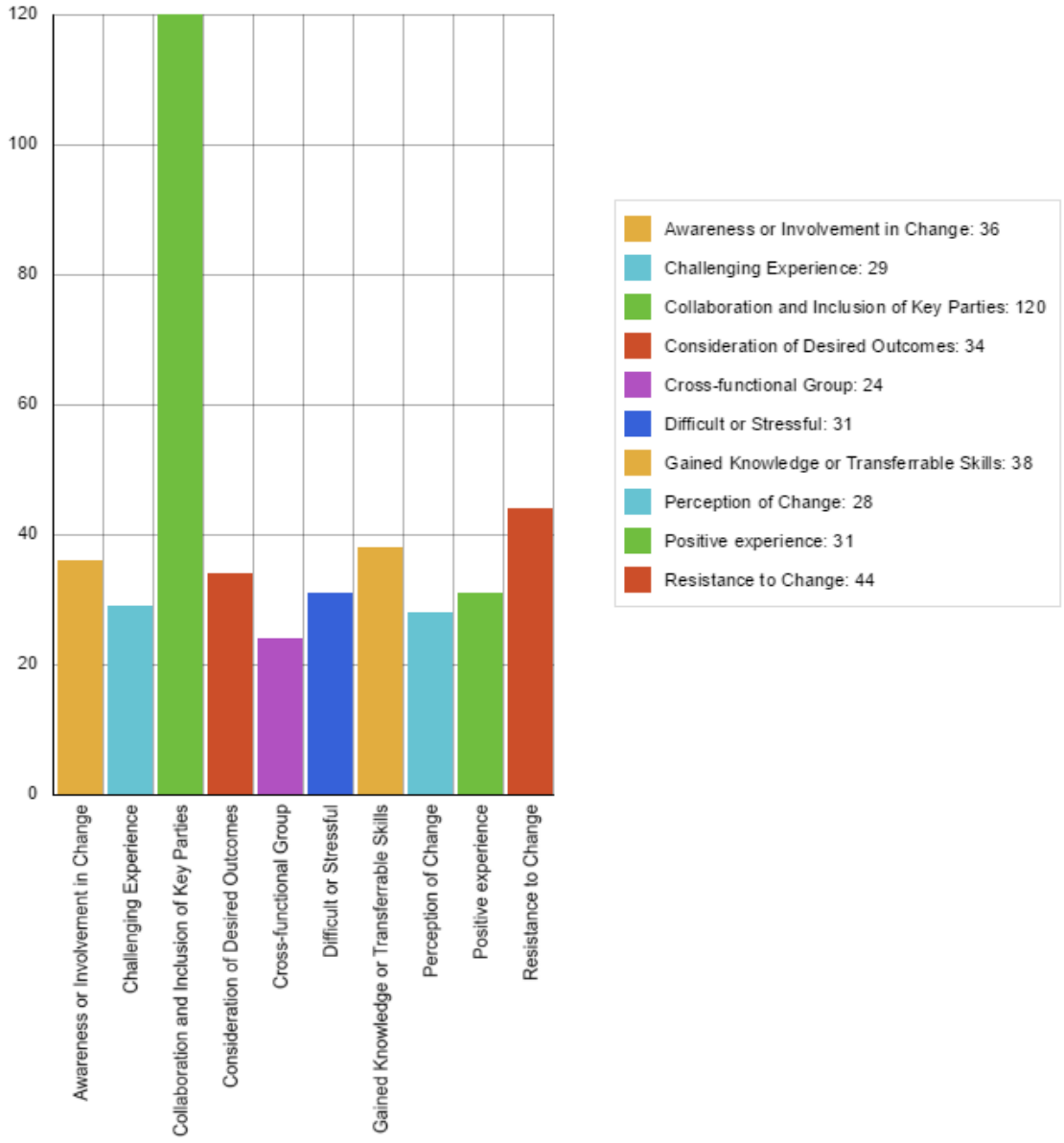
Table 8

Employee Engagement Theme—Categories, Codes, and Usage

	Categories	Codes	# of uses
1	Feelings	Resistance to change	44
		Difficult or stressful	31
		Positive experience	31
		Challenging experience	29
		Perception of change	28
		Distrustful	21
		Conflict	18
		Did not feel good	12
		Frustration	12
		Confusion	11
		Lack of confidence	9
		Trapped or alone	4
		Regret	3
		Grateful	2
2	Participation in change	Collaboration and inclusion of key parties	120
		Awareness or involvement in change	36
		Cross-functional group	24
		Qualified and engaged participants in project	22
		Negotiating skills	16
		Empower team	5
3	Consideration of employees	Consideration of desired outcomes	34
		Ease the change for impacted parties	19
		Impacted party alignment and support	15
		Consideration of change agent experiences	13
		Multigenerational workforce	5
4	Benefits	Gained knowledge or transferable skills	38
		Expanded network	11
		Exposure to other areas	6
		Market impact	3
		Received recognition	3

Figure 5

Employee Engagement Theme—Top 10 Codes



Discussion

Employee engagement takes many forms. During the implementation of an innovative financial technology, employee engagement can refer to engagement of those involved in the project, those impacted by the project at various hierarchical level, or those that should be informed of strategic priorities. In addition, the emotions that were described each of the participants were also aligned with the employee engagement theme. The reason for that alignment is because each participant's involvement in the initiative is what led to the emotions that came up when they told their stories related to the phenomenon.

Participation in Change. The human aspect of change is important and is at the basis of the purpose of this study. P17 shared that they invested time "trying to make sure we get the right folks, the right subject matter experts, the right voices, the right support from the various senior executive management." As P12 stated, "that's why I always say it's a team effort. It's not an individual. The product manager can't do it by themselves. The technical teams can't do them by themselves. It's a collaborative effort for delivery." P04 experienced resistance from leadership to include the people that would have the expertise that would help to drive meaningful requirements for the implementation. P01 shared,

> I definitely would have included in the planning subject matter experts from the areas that were going to be impacted by the change. I would have had them give us background information and insight into what their processes are and what their responsibilities are and what they did manage and what they didn't manage,

> so that we could make sure reports matched what their desired outcomes were. (P01)

P02 explained, “it's always easier to implement when you are solving a problem that people want you to solve and people is onboard. You have to try to, I mean you have to try to involve everybody, you cannot force the implementation, you cannot force the change.” P07’s experience agrees. “You've got to bring your people with you. You can have the best technology, the best ideas, the best platforms, the best upgrades, the best system. Unless your people come along with you on that journey, forget it. It's not worth wasting a penny on investment” (P07).

Participation in change efforts can have a positive effect on the implementation. P03 shared, “having the proximity to the true subject matter experts, the partners that we'd brought in to help us implement the system, really helped me learn about the technology.” In P06’s experience, “the folks that I talked to, even though there was a lot of siloing, reaching out to those folks, there was never any pushback saying, that's not my role, that's not my job, that's not something I have time for. Everyone pitched in.” P10 also shared, “I've also been on the end where I've been part of pilots and we're going to try this out, we're going to do this, where definitely I was included in feedback and helping mold what that final process [became].” P09 shared a collaborative experience. “As you go through this, you've got individuals…helping us map data, map processes, understand what they did, how they did it and how it's going to come over here and we're like, let's do it, work together” (P09). P05’s experience, similar to the point made by P14 related to a transition function within the Change Management theme section, made clear

the need for participants in the project that could help to translate requirements between the technology and functional business teams.

P18 explained, “I really think inclusion up front, it would be very beneficial. And I know a lot of organizations kind of struggle with when to bring in the technology folks and certainly at our organization that's a big problem in terms of inclusion.” P02 advised, “you should spend a good enough amount of time selling to people the technology, putting the people in the same page, making sure you're going to have the collaboration of anyone who is going to be involved, because implementation takes time and effort.” The following advice was shared by P08 based on the experiences shared, “If you're a senior leader, please...listen to what your SMEs are telling you; your experts are telling you because then that negates the rosy picture sometimes, but yet you solve the real issues and you get that contract faster. So that would be my advice.”

There have been varied experiences shared related to awareness or involvement in change. P05 shared, “I was included in things that it was almost, I was questioning, why are you including me in this? Like I'll learn it and I will help you out, but am I really the best person for you to be addressing this to?” There were opposite experiences like P15, where inclusion was lacking.

> I thought that I could have been engaged further, because I was like I mentioned one of the process or subject matter experts in the program, and I feel like there are certain things that are more important to train on versus just like when notifications are going to launch or launching by a certain day. So I think I was not involved as I should have been. (P15)

P10 explained, “I don't think the communication was exactly where it should've been, where not everybody is even aware of the changes.” P01 shared an experience where the end users “still don't know to this day all of the different things that they need to know to use the technology to its fullest potential.”

According to P07’s experience, it is important to ensure the employees are included in the process. P11 shared,

> I spend a lot of time saying to technology like, that might sound good from a technical build perspective, but the person who has to live in that process that you're designing from just a tech and coding perspective, isn't going to be able to do that thing you're saying that they can do. It doesn't work. (P11)

If P11 were not engaged in the change, would there be another person to step in be able to provide the alternate perspective? P13 shared an interesting perspective.

> I had a woman that that kind of mentored me and taught me everything and we were on this project for a week and she said, we will not be successful here. And I kind of looked at her and I'm like, well what do you mean? And she's like, I can just tell from the attitude of the end users, they didn't want this project. It was kind of thrust upon them, you know? Okay, boss said, hey, you guys should do this project. So they're doing it because he said that, but they have no vested interest in the success of it. (P13)

According to P04’s experience, it is important to keep in mind that the perception may be that change decisions take place at the higher level and the others may not have a voice.

One way to help ensure the appropriate parties are included in change is to ensure the project team is comprised of a cross-functional group. P05 shared,

> I was a part of a project team of about eight people for that project and we came from varying backgrounds from a teller to an SSR, an accounting manager, IT operations, business lending. They had varying skillsets, which all complimented each other. (P05)

P12 shared a similar experience, “right off the forefront, in that first year, we were given all of the different product components that you would need. You had product management representation, business representation, technical representation from all the applications.” P01 explained, “that's one thing that I would say they got right, was bringing in people from all different areas to work together on this project.”

P07 suggested the following approach for cross-functional teams,

> Let's go and find a technology, other technologies, other platforms, other partners who can help us solve those challenges. And then let's work. Go back to basics with our ultimate end user, the customer, the employee, and be like, hey, let's get some design thinking. (P07)

P03 also shared advice when considering those to include in a project team.

> Looking internally at the team that's going to run the implementation. I'd say you want to pick the people who are change champions, and then you want to sprinkle in some of those people who are going to be a little change averse, because you want to hope you can win them over and they become then, the champions of the product into the field. Really, the most successful implementations I have seen,

> have always been when people really believe in the product, and they don't sit there and just bash the product. Because if that's your production support team, you're never going to have people who are excited about their job. (P03)

Inclusion of the right individuals in the project team is an important component of project management and also has an impact on how employees engage during the change effort. P03 shared, “I think looking internally at the team, making sure that you have the right players, literally team players, to deliver the product to the client [is important].” P14 shared the following advice related to ensuring qualified participants are included in a project.

> Surround yourself with really smart people that have done it before, but are also compatible with the organizational culture. That's the number one thing, the advice that I would give is that you need to surround yourself with people that are ultimately, I always like to say, I always want to hire people that are smarter than me and I think that's the number one thing. A lot of times in these modernization efforts it's really about some people are in that camp where they want to get all that credit, but you have to get past that surround yourself with people that are smarter than you, that have done it before and have a personality and can collaborate with people. Most of the things that I've dealt with and would always recommend in the future are all really people based. (P14)

Similarly, P17 also shared, “I'm typically a bigger fan of, the old adage, I want to hire people that are a lot smarter than me. Let them make some decisions and support them and then get the hell out of the way.”

Benefits. Based on the experiences of participants in this study, there are multiple benefits from participating in the implementation of innovative financial technologies. Expansion of their network and exposure to other areas was one aspect that was revealed through the analysis of interviews. P01 and P05 shared similar experiences.

> Basically the best thing that I got out of the experience was the networking opportunities. Because I was on a special project with people from all different areas, I got exposure to people that I never would have been able to meet any other way. (P01)

> One of the folks I worked with, he is actually one of my closest coworkers and he and I still work in very close proximity to each other. Another person, she's since left the organization, but she and I are very, very close. And the remainder of the folks that were involved, I still keep in contact with. (P05)

P11 explained an experience related to gaining exposure to new areas, such as technology. “Even though I did go kicking and screaming, it has really helped me to kind of round out some work that I'm doing” (P11). P03 also shared, “It gave me a new way of thinking, and it exposed me to an entire industry that I kind of knew existed, but now I'm an expert in.”

Participants in this study also highlighted gaining knowledge or transferable skills by participating in an implementation project.

> The breadth of what we got to deal with and then the exposure to that realm of IT actually set me on my career path and opened up a lot of doors for me into a business systems analyst and now project management role. (P05)

> I think the number one thing is that you can't have any kind of, I used to have more direct biases when I was a bit earlier in my career than I do now. What I've mature taken forward in all of these transformations is that it's, everything is evolving so quickly. You have to keep an open mind and that you can't just because you like something that you did 10 years ago, you have to accept and acknowledge that it's not applicable anymore, and that you have to and grow and accept that you have to get away from your biases. That's one of the things that I've been able to do is to remain as I've gotten progress further in my career, been much more objective about things and less opinionated and let the facts fall and let the facts speak for themselves. (P14)

> Okay, this may sound weird, but honestly, I think I stress out a lot less. And I think one thing I've learned is that yes, it's technology and yes, it's banking, but at the end of the day, no one's going to die, right? Like I'm not a heart surgeon, right? So if we miss a day, if we miss a deadline by a couple of days or if something slips, right, let's learn from it and fix it. (P13)

Several participants have expressed an increase in knowledge of opportunities or increased confidence due to the new skills acquired. P10 explained that lessons learned from previous experiences are utilized in new roles and experiences. P01 acknowledged receiving recognition for skills that were developed, explaining, “it opened up different opportunities for me that I may not have considered or even known were possible before this project.” According to P08, “some of the challenges in helping break down the communication barriers was also a growth opportunity for me throughout and being able

to carry those lessons and those methods from one major implementation to another." P16 shared that involvement in the "project made me understand what real life or real professional work is like. And not everything is cupcakes and butterflies and you've got to fight for things that you know are right but others don't see the value in it." Along the same theme, P04 shared, "from January one to now I really have gathered some, I've gathered enough perspective to be confident in my voice and my perspective."

Another perspective was shared a P07 related to the banking industry as a whole and advice for bank leaders.

> Banking is a very, very important industry. Financial services, consumer finance in the US is critical, and banks owe it to the communities and customers to transform, to deliver capital in a safer, more efficient, faster way to more consumers. To help people find their hopes, dreams, and aspirations. And candidly, we all owe it to ourselves to do that, too. The trouble is there are very few people that actually want to do it. The banks want to talk about the word transformation, for example, and all that is is just a fancy marketing term for let's just throw more money at old systems and call it a transformation versus actually structurally rebuilding how the bank is built to serve customers….A lot of transformation in corporate America is basically, to use a golf analogy, if it's a par four, the companies are hitting seven, eight, nine, 10, 11, 12 on the hole because of their old tech and platforms. They say, oh, we're going to do transformation, and then throw billions of dollars at some system upgrade that's 10 years old already so they can hit a four or five or six on the same par four. What they really

> need to be doing is thinking ahead from an innovation standpoint, a partnership standpoint, a true transformation standpoint and start hitting threes, aiming for the pin. Go for the birdie. Building the bank of the future, not the bank of the last decade. (P07)

Consideration of Employees. When considering the role of employee engagement during change, how employees are considered during the implementation is an area that has been shared via the lived experiences of participants in this study. The importance of alignment of impacted parties and their support has been prominent through the previously explored themes and is definitely a correlating factor for how employees are considered during a change. P02 expressed it has been detrimental in their experience when leaders force a change in which the impacted individuals are not aligned. P07 shared, "whereas at the beginning I had tremendous resistance, now I have the majority on my side." P03 a explained, "even though the technology would be supported within the HR organization, that our IT partners were on board and could help us still take some of the more technical aspects of implementation." Having the support of the technology areas for the new technology was an important aspect of the collaborative nature of the project. P07 also shared a perspective related to having a multi-generational workforce,

> You also have a personnel thing, which is like often the older employees who are comfortable with the system, however imperfect, and then the younger ones who are hungry for change that tend to, not always, but the tendency is that the younger, say millennial, employee tends to be much more willing to adopt the

> new technology, but also to realize that anything's better than the crap they currently have. So I think that is perhaps a less studied reality. And I think it were a broader question or thing to consider whether it's on this call or in your dissertation or otherwise is a third of the US population are millennials. When you add gen Z, it's half the country. The majority of the workforce within a decade will be millennial, the significant majority. (P07)

Although the generational factor was not raised by any other participants, considering how individuals are impacted by change is a common factor. Part of P01's role was to help "the people impacted by the changes adapt to the new process." Per P10's experience communication is a key component to ease the impact of change for end users. As P11's experience that was shared within the Change Management theme explained, having individuals that are able to translate requirements in a format that is easier to understand can be helpful. P08 experienced a project where the speed to market for the customer was well executed and lessened any potential impacts to customers. When project team's are able to ease the impact of the change, P13 shared that it is a fulfilling experience.

Considering the desired outcomes of the project proactively is a measure that may also assist with easing the impact of the change down the line. P02 shared, "people hate to put aside what they are doing, their day-to-day, to engage in any extra effort related to a new technology." Upon further considering that perspective, it would likely be important to match desired outcomes, as suggested by P01. P08 shared "that always resonated me and connected the dots through the three major implementation, that there

was that consideration for the customer while also getting SMEs and business analysts to perform at a high level." P17 explained, "that would probably be the biggest thing is allow yourself flexibility to be able to adapt and make sure the processes really are there to add value and benefit."

In P13's experience, technology change should be thought of as more than just automation, but instead as an opportunity to explore true change. P14 expressed that bank leaders should do more than talk about change but should strive to implement innovative solutions. P07 shared the approach that is being carried forward based on lessons previously learned.

> From now on, anything we do we've got to get our ideas from our front line. Let's get our problems. Let's hear problems not from the ivory tower. Let's hear from the problems from the front line. Let's see if it balances out with what's in our broad strategic interest. (P07)

P09 shared, "to me, everything about these acquisitions and the resulting technology, project conversions or whatever initiatives is all about the people, all about the people."

Similar to the Change Management theme and exploration of opportunities for improvement or lessons learned, consideration of how change agents experience change is important. Although the examples may be similar, the focus within the Employee Engagement theme is slightly different. According to P01, "no one asked those of us who were in the thick of it, you know, what our experiences were like" which may influence negative emotions toward the implementation. The emotional aspect will be further explored within the Feelings category. P04 experienced feeling restricted by the decisions

being made by leadership, “they dictated who we could and who we could not engage with and how we engage with those individuals.” P11 shared a perspective related to how testers may experience change.

> If you're sitting in a tester role and you've been working 10 hours a day, you've given up some weekends and some family time, and then now we're saying, and again, these are just random dates. Right? Now we're saying let's go into summer. Your brain automatically goes to, oh, wait a minute. Am I going to have to give up family time over holidays? Right? I had travel plans, whatever the time of year is. There something that you personally are going to have... Like part of your benefits of working for a bank are days off, for example. And if you have to give that up, there's a, it's not that it's not the right thing to do for the program perhaps, but at the individual employee level, that can sometimes be a little interpreted as they don't care about me. And so why would I keep working hard on this. Right? Never the intention, but it's not unnatural for a human brain to go there. (P11)

P15 shared a similar experience where “people were sequestered for quite some time to make sure the testing was done.” P17 shared the importance of having employees engaged because when “it's their vision that you're helping them realize, that seems to go a long way.”

Feelings. There has been considerable discussion through the synthesis of the lived experiences shared by participants in this study related to the people aspect of technology implementations. One of the key facets of the human experience is how they interpret their experiences, which includes how they feel about their experiences. The

feelings that were expressed relate to previously explored themes, with a specific focus on the emotions.

One of the key people challenges that was described by participants in this study is resistance to change. P10 said “I think there's always a little bit of fear of change.” P13 shared “I've also in my career obviously worked with people that resist a project from the beginning,” or as P03 described as “the attitude that there is no room for improvement.” P01 shared, “they were resistant to change, as many people are. But they were extra resistant. They had a mindset that this isn't going to work, it’s never going to work, it’s not better than what we had before, it’s not an improvement, it’s a detriment to our processes.” P17 also expressed, “when you get in front of a group and you're trying to discuss and drive things, all it takes is one person to throw a stone at you, and next thing you know, everybody grabs a rock.” P02 shared an experience when resistance to change led to lack of use of a solution.

> I have cases where I developed some technology or implemented a technology but the people doesn't want to use it. They just get, you know what, I like better what I do this way. And they tell you yeah, we're going to use it. But at the end of the day, you find out that they are not using that. It takes time for them to change the way they work. (P02)

There may also be instances where resistance may turn into a successful change implementation. P16 shared, “there was a real human component that we were fighting uphill against, but it got the adoption.” P07 experience resistance when implementing the first several innovative technology projects, but has gained momentum after proving the

value of the changes that have been made. How changes are perceived is a component to consider, as P01 shared if managers have a certain perspective of leadership, “I think that filters down, right? If they feel like that at the top level, it is going to impact the way others perceive it as well.”

The experiences shared by participants in this study provide insight into the complex emotions that have been associated with the implementation of innovative financial technology from a more personal perspective as well. The experience range from negative to positive, although there has generally been more of a focus on the challenges experienced by the participants in this study. P07 reflected on the first innovation implementations, sharing “getting those things through were really difficult.” P08 shared, “challenges stood out and they were real.” P11 explained, “often from an employee experience, you end up working a tremendous amount of hours. Right? And working through issues at times, multiple times, which again, nature of the project but as pressure starts to mount to get to delivery dates.” According to P14’s experiences balancing resources, “it is stressful.” P18 also reflected, “as a project manager, a lot of times it was overwhelming. It was stressful.” P10 experienced some uncertainty, explaining, “I think there's always a little bit of nerves as far as how is this change going to impact me in my job?” P05 explained, P05 “there was a lot of stress, lot of drinking, lot of anxiety that came out of it.” P03 was a discrepant case stating, “I found it highly stressful, but I loved it.”

The challenges were items that stood out for participants. P13 shared that being in the technology industry alone is challenging, while P11 focused on the challenges of

meeting demanding timelines. P17 shared, “I'm going to keep focusing on the cumbersome side of it. It really is a process is what really stands out.” P18 explained, “My general experience in terms of a technology project is that they're more difficult than business projects primarily because of the different tools, the technology tools, that make it a little more difficult to implement than you would a standard project.”

Overall, challenging experiences have aspects that do not feel good. P02 shared a challenging experience related to feeling like there was a lack of support from leadership.

> When you don't have the support from the people that is supposed to be supporting you, you know what I mean? How do you feel? You feel like deceived; I don't know. I mean the feeling was like, okay, these people are supposed to be helping me, and instead of helping me, they are giving a hard time to implement for implementation. (P02)

P04 also shared emotions stemming from a challenging experience.

> I'm going to be honest. I wanted off that rollercoaster for a long while. It was just different from everything I'd known to be the right way. And trust me, I mean, I'm not the kind of person who thinks there's one right way. I don't see boundaries, I don't see wall as far as new ideas and trying new things. However, I'm very much a student of process and organization. Everything about this project from the outset has been disorganized and unstructured. (P04)

P03 shared, “it was awful when things were promised to leadership, that were out of our control, that we could not accommodate.” P09 opened up related to how emotions were in the moment of the experience that was described. “You probably sense the passion in

my voice and can only imagine that when it was alive and, in the moment, back when it happened, I was probably more, I want to say angry" (P09).

In the Leadership Role theme section, P09's experience was explored where there was a "joke that the head of our technology world was kind of like the mafia." This joke highlights an aspect of distrustfulness. P05 shared challenges with a lack of trust, stemming from negative emotions. "You know, everyone says like, "oh my gosh, this is so exciting. oh, we'll support you, and there was a lot of lip service." P15 experienced distrust with an implementation partner. "I was very distrustful of the tech implementation partner and I felt that made the entire process more stressful. Because they kept changing answers, changing teams" (P15). There may also be distrust where it relates to employment after the implementation effort is complete.

> If more things go from a technology standpoint, does that mean there's going to be less people in the branches, less people working? Or is there going to be layoffs, is there going to be different things that are going to happen? (P10)

A similar experience was shared when P08 said there is an "unknown of am I going to be employed after this" for others that participated in the project.

Frustration, confusion, and regret were also shared by participants. "The project was very difficult because different stakeholders, let's say inside of the bank, have different interests, that created a lot of conflict" (P02). P01 also experienced "frustrating work to produce something that may or may not have been accurate and effective for people who weren't even aware of it and weren't using it. So it felt like a lot of futile efforts." P09 shared some confusion, thinking, "Like, am I a willing participant or am I

here under duress?" P02 explained, "the feeling was kind of awful at some point. I think that you kind of get trapped, get trapped in between two powers." P09 also felt there was a lack of support. "So my impression from the time was just I guess I had terms such as a cowboy, and that sounds weird, I can explain it, but are people going it alone, too far alone?"

Participants were able to identify positives that came from going through the challenging experiences they were willing to share for this study. P18 explained, "obviously at the end it was rewarding when we hit our goals." P06 shared, "I learned two different applications to build a solution, which was fun. It was interesting." According to P01's experience, "I definitely enjoyed the experience, but it could be because my nature is to embrace the difficult things." P08 shared through reflection, "I started to reflect a little bit and for the most part it's been a lot of positive vibes." P11 explained, "I've learned a lot, but it definitely is a different mindset," while P14 shared, "I think my general reaction is it is exciting to be a part of it." P13 explained, "from the technology side, I think there is a certain joy if you will, of getting something to work." P03 was a discrepant case, sharing mostly positive experiences, and providing the following perspective,

> I personally find the challenges of that kind of work really exhilarating. I'm probably not the common case for technology implementation, but I did really enjoy the work and even though it did, I would say the amount of time that it took, the impact it had on my work life balance was huge. But recognizing that implementations are only for a short amount of time, I think it was worth it to be a

part of that experience, and to be part of the team that was able to deliver something really cool. (P03)

Summary

The research finding presenting within this chapter provide the lived experiences of eighteen participants in this study that meet the participant criteria and have experienced the phenomenon of implementing an innovative financial technology. The research process followed what was outlined in Chapter 3, and no major adjustments were necessary when considering the evidence of trustworthiness of the study. The interview transcripts were coded utilizing inductive coding and data were manually coded.

The singular research question for this study was answered utilizing the lived experiences of participant via coding results including categories and themes. The four themes that were identified through the exploration of participants' lived experiences during the implementation of innovative financial technology solution were: Change Management, Leadership Role, Technology Selection, and Employee Engagement. The top ten themes that emerged from the research of participants' lived experiences were included in Table 2.

The results of the study demonstrate that the method utilized to execute change management is a meaningful factor to consider, with six of the top ten codes falling within the Change Management theme. Communication, the process of executing changes, utilization of resources, the process of making decisions, and timing of the implementation were key contributors to the experiences that were shared by the

participants in this study. From a leadership perspective, the two codes that were in the top ten were management alignment and differing interests, demonstrating that this theme was most impactful from the perspective of obtaining alignment through the challenges associated with having differing interests among the leadership team. When selecting technology, understanding the technology solution was a key component as described by participants in the study that stood out in their experiences. From an employee engagement perspective, collaboration and inclusion of key parties within the project or implementation was a key component, along with resistance to change. With human capital being in direct relation to innovation, the engagement of employees in change is a critical element of the results of this study (Leyer et al., 2017; Sartori et al., 2013).

The experiences of the participants of this study align with existing research related to the process of innovation in that key components are project management, company performance, customer needs, and the people that bring forward the innovation (Brandon & Guimaraes, 2016; Callaway & Jagani, 2015; Leyer et al., 2017; Martovoy et al., 2015; Sartori et al., 2013; Wang et al., 2017). The results of this study provide insight into how individuals involved in an implementation experience the process of innovation, which has been described by existing research as an area in which additional exploration is necessary (Martovoy et al., 2015; Nejad, 2016). Chapter 5 includes the conclusions of this study by providing additional interpretations of the findings, any limitations to the study, and recommendations for future research. Implications to social change is also included, as well as an overall conclusion for the study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this research was to explore the lived experiences of bank employees during the implementation of innovative financial technology. The study was conducted utilizing a qualitative interpretive phenomenological approach. Due to the nature of the study, purposeful sampling was used in order to ensure that participants had experienced the phenomenon being studied, thus meeting the target participant criteria (Van Manen, 2014).

The results of the analysis were summarized in detail within Chapter 4 of this dissertation but included several key findings that are expanded upon within this chapter. The themes that were prevalent based upon the analysis of the participants' lived experiences were change management, leadership role, technology selection, and employee engagement. These four themes are correlated to concepts that are pertinent within existing research that was explored within the literature review, and the results are supported by the selected conceptual framework.

Within this chapter, the results of the study are compared to the literature review to determine if the participants in the study described concepts that were evident in other peer-reviewed studies. In addition, the results are analyzed in the context of the conceptual framework that was used for the study. The advice provided by participants in this study is shared, along with a discussion of how these components are related. The limitations of the study and recommendations for future research are also provided. There is also a discussion related to the potential implications of this study for positive social

change. The chapter closes with an overall conclusion to the research conducted for this dissertation study.

Interpretation of Findings

The volume of new financial services has increased over time due to advances in technology in the last 50 years (Nejad, 2016; Nejad & Kabadayi, 2016). The financial services industry experienced exponential growth in financial technology innovation between 2013 and 2017 (Kursh & Gold, 2016; Ryu, 2018). In the current financial services environment, both banks and nonbank institutions such as fintechs compete for customers.

As discussed in the literature review, the regulatory landscape of the financial services industry is complex. Banks are subject to regulations from federal oversight bodies and legislation, in addition to state-level requirements (Bexley, 2014; Murphy, 2015). Fintech corporations are subject to state-level requirements, bypassing the level of rigor from federal regulatory bodies (CSBS, 2017). As a result of these differences, focusing on the experiences of bank employees during the implementation of innovative financial technologies during the most recent period of exponential growth was an important component of this study. In addition, although researchers have conducted analyses regarding the impacts of regulation on innovation within the banking industry, there was an opportunity to explore the lived experiences of employees who led efforts to implement innovative financial technology solutions, which is an underresearched topic (“Becoming the Torchbearers,” 2017; Çetinkaya Bozkurt, & Kalkan, 2014; Straub, 2016).

Existing Research and Study Results

Financial institutions respond to customer needs by utilizing competitive pricing and other key components, such as technological advances (He, 2015; Ryu, 2018; Troilo et al., 2017). Because pricing is impacted by regulation in the banking industry, the most prevalent factor is ease of use by customers, an area highly dependent upon technology (Chu, 2018). Competitive advantage is critical in a concentrated market such as financial services, where the offerings are very similar (He, 2015; Troilo et al., 2017). The provision of innovative solutions, technology, or services has become a key method of maintaining competitive advantage (Mahmoud et al., 2016). Innovation has been described as the implementation of creative ideas. As such, the role of employees involved in the development and implementation of innovation is important to the overall process of innovation (Cooper, 2017; Jorgenson, 2018).

The three notable areas of focus related to the process of innovation that emerged from the literature review were customer needs, employee or company performance, and project management. As previously mentioned, in order to meet customer needs, banks must maintain competitive advantage, which includes the aspect of market acceptance of products or services offered (Patel & Haon, 2014). The needs of the customer play a significant role in shaping current and future innovation activities (Saldanha et al., 2017). When considering employee or company performance, there is a need to balance the actions needed to maintain daily operations while also allowing and supporting innovation (Callaway & Jagani, 2015; Wang et al., 2017). The process of supporting innovative activities while also being open to innovative ideas related to process

improvements is important in rapidly changing environments (Leyer et al., 2017). To further support this, process-oriented organizations should maintain an environment in which employees are able to share knowledge and openly communicate ideas to one another (Leyer et al., 2017). In addition to processes to allow for intake of ideas, the manner in which projects are managed is important. Strong project leadership at the onset and maintaining a focus on the motivation for change is important (Brandon & Guimaraes, 2016). Effectively managing change activities, allowing for employees to share their knowledge, and focusing on the needs of the customers to maintain a competitive advantage have been demonstrated in existing research as key facets of the implementation of innovation (Leyer et al., 2017; Patel & Haon, 2014; Saldanha et al., 2017).

The four themes that emerged from the data analysis and results of this study were change management, leadership role, technology selection, and employee engagement. Within this study, the focus was on the employees' lived experiences, which did not correlate directly to the theme of customer needs that was identified within existing research. Customers' needs and the ability to remain competitive tend to be the motivation for change (Wang et al., 2017). The employee or company performance theme identified within existing research was definitely represented by participants' lived experiences, as demonstrated by the themes related to the role of leadership and employee engagement and supported by assertions that innovation and idea generation seem to be related to employee engagement at all levels (Leyer et al., 2017; Muñoz & Encinar, 2014; Senge, 2010). Project management was represented with the highest

volume of codes within the change management theme, as project management is central to the nature of change management within the banking industry. The 24 codes with the highest volume of usage are included in Table 9.

The experiences of the participants in this study align with Martovoy et al.'s (2015) assertion that financial services companies tend to utilize projects in the development of innovation. The process by which change is implemented and how projects are managed were expressed as key experiences by participants. Communication was most frequently described as a relevant experience by participants in this study. Each of the 18 participants shared experiences highlighting the importance of communication during an implementation. One of the recently identified top 10 reasons for process improvement project failures is poor communication practices (Syed Ibrahim et al., 2019), further supporting the importance of communication during the implementation of change. P10 explained, "I think communication is big. Being up front about it, being upfront about why we're doing the things that we're doing. And I think just knowing that communication is ongoing."

Table 9

Top 24 Codes—Usage and Theme Distribution

#	Codes	# of uses	Themes
1	Communication	152	Change management
2	Collaboration and inclusion of key parties	120	Employee engagement
3	Change management process	109	Change management
4	Resource allocation	65	Change management
5	Decision making process	63	Change management
6	Management alignment	58	Leadership role
7	Understand technology solution	51	Technology selection
8	Differing interests	49	Leadership role
9	Implementation timing	48	Change management
10	Resistance to change	44	Employee engagement
11	Availability of requirements and information	41	Change management
12	Problem solving	40	Change management
13	People challenges	38	Change management
14	Process improvement	38	Change management
15	Gained knowledge or transferable skills	38	Employee engagement
16	Vendor engagement	38	Change management
17	Leadership support	37	Leadership role
18	Awareness or involvement in change	36	Employee engagement
19	Consideration of desired outcomes	34	Employee engagement
20	Proactive strategy	34	Change management
21	Explore better tech solution	33	Technology selection
22	Managing expectations	33	Change management
23	Positive experience	31	Employee engagement
24	Difficult or stressful	31	Employee engagement

Highlighting the importance of communication, the employees who participate in change initiatives have an impact on the success of innovation development and implementation (Brandon & Guimaraes, 2016). As a result, inclusion of the appropriate groups is an important facet of the success of an implementation to accomplish the collaboration necessary to influence successful innovation (Leyer et al., 2017; Sartori et al., 2013). Each of the participants shared lived experiences that support the importance of collaboration and inclusion of the right people. Similar to the concept of collaboration, ensuring that key parties are at least aware of changes and have the ability to get involved in some way was also within the top 24 codes that emerged from this study.

Using a project approach provides the ability to have a diverse population of employees and departments represented and participating in an implementation (Leyer et al., 2017; Martovoy et al., 2015; Sartori et al., 2013). It is also important for organizations to be able to maintain their daily operational goals in addition to having the capacity to support the development of innovation (Callaway & Jagani, 2015). Participants shared experiences that provided insight into some of the challenges that may arise when there are numerous higher priority activities, describing experiences in which resources were in demand for multiple activities or resources were not available to support the change as needed (P04-P06, P08, P09, P11-P18).

An important consideration for both project implementation as a process and for speed to market to meet customer needs is the timing of an implementation. Speed to market is a key consideration for competitive advantage (Callaway & Jagani, 2015; Cooper, 2017). Based upon the experiences of participants in this study, there are

challenges associated with selecting timelines that are rigid, that are unrealistic, or that end up being extended (P02-P04, P06, P08, P09, P11-P15, P17, P18). Managing expectations is a component of timeline management, as it is important to ensure that the team is communicating about progress and being proactive in informing leadership if there are challenges that may impact the timing of an implementation (Callaway & Jagani, 2015; Wang et al., 2017). There may be times when the project team needs to improvise and develop innovative solutions to problems that may arise (Callaway & Jagani, 2015; Wang et al., 2017).

When implementing a technology solution, understanding the solution that is being utilized is important, according to the study participants. Participants in change initiatives may not be able to develop innovative solutions if they are not well informed about the technology solutions being implemented. It is also important to allow the opportunity to explore better technology solutions if the originally selected technology is not sufficient or may not be the best choice based on the project objectives. Of the 18 participants, 17 described experiences that correlate to technology selection as a key theme. Exploring better technology solutions may include additional internal development, utilization of an externally purchased technology, or engagement in a relationship with a vendor or fintech to provide a service (Cortet et al., 2016).

It is important to ensure that the appropriate parties are engaged in making project decisions (Brandon & Guimaraes, 2016). This is especially important when seeking alignment from management on the desired outcomes and approach for the change initiative. Within the leadership role theme, management alignment was the most

common challenge, and it was many times associated with having differing interests while not achieving consensus among involved management teams. Having the support of leadership during the implementation of change was the third most prevalent leadership code, as the result of accomplishing consensus among leaders is having their support when engaging in a change implementation. The aspects of management alignment and leadership support are important to ensure that an initiative is not negatively impacted by managerial overconfidence (Aspara et al., 2018). Given that people tend to focus on things that there is an incentive to accomplish, the alignment of key parties can be a determinant of the success of an initiative (Cooper, 2011, 2017).

Because people are a foundational component of innovation (Sartori et al., 2013), people challenges are priority challenges to address proactively when considering the implementation of change. Aside from the aspect of management alignment, resistance to change is a prevalent code within the results of this study. There are various partnering codes to resistance to change, many of which correlate to collaboration, inclusion, or awareness of change by impacted parties. Resistance is also one of the top 10 reasons for process improvement project failures (Syed Ibrahim, 2019). The aforementioned codes related to communication, management alignment, collaboration with key parties, awareness, decision making, and change management process are all critical to trying to circumvent resistance to change. When pursuing implementation of an innovative technology solution, it is critical to start with a strong plan to foster an environment of collaboration between people and teams with unique experience and expertise to pursue the intended innovation (Leyer et al., 2017; Sartori et al., 2013).

Conceptual Framework and Study Results

The conceptual framework for this study included the concepts of systems thinking, organizational innovation, and sensemaking. Systems thinking allows for the exploration of a holistic organizational system through the lens of the participant, including the interactions that exist within the participant's experience (von Bertalanffy, 1972). In addition, considering the topic of innovative financial technology, the concept of organizational innovation expands upon systems thinking to focus on emerging patterns from interactions and resulting from the level of difficulty associated with the innovation being implemented (Glor, 2015). The participants in the study who shared their experiences as part of the organizational system and during the implementation of innovation used sensemaking in order to tell their stories and their experiences (Weick, 1995). Each of the components of the conceptual framework was evident in the analysis process and in the participants' shared experiences and stories.

The utilization of systems thinking allows for both researcher and participant to engage in dialogue related to the implementation of change. In this study, I focused the questions on the participant's experiences while also seeking to analyze the interactions between the participant as a part of the system and the other system components (Garavito-Bermúdez et al., 2016). The aspects of the system that were part of the experience were shared by participants, with a particular focus on the components that led to a significant personal experience for the participant (Garcia-Quevedo et al., 2018).

Knowledge is a function of what is experienced by people (Boulding, 1956). Because people are foundational to innovation, utilizing their experience and knowledge,

it is clear that systems thinking and organizational innovation are closely related (Baskaran & Mehta, 2016; Padilha & Gomes, 2016; Schuchmann & Seufert, 2015). Decisions that fall outside the status quo in the business-as-usual environment provide insight into alternative ways to operate and approach customer needs (Jeleva et al., 2017). It is this innovative thinking that leads to the implementation of innovation to begin with. There is also another component of innovation in a system that includes participants' experiences and learning that lead to future innovation. This component involves not only implementation of innovative financial technology, but also consideration of innovative solutions to complex problems.

Sensemaking is the way in which people interpret their experiences (Weick, 1995). As a result, a phenomenological study by nature should include the concept of sensemaking. The data for this study are the participants accounts of their lived experiences in transcript form, gathered through the process of sensemaking based on the overarching research question and semistructured interview questions. When discussing experiences related to the target phenomenon, participants moved continuously between intersubjectivity and generic subjectivity, as described by Weick (1995). In addition to the sensemaking that takes place by participants in the study, I also utilized sensemaking in order to synthesize the results of the study by interpreting responses and via pattern identification (Brown et al., 2015; Weick, 1995).

Advice for Bank Leaders

As part of the semistructured interviews with participants, I asked the following question: What advice do you have for bank leaders related to future innovation

implementation efforts? Each of the 18 participants in the study provided a response to this question during the interview. The advice provided by each participant will be reviewed in detail within this section.

P01 shared experiences related to having aged requirements and where the end-users were not engaged in developing their future state solutions. P01 also expressed that leaders did not capitalize on the opportunities to learn from the employees managing the different workstreams during a long-term, complex project. P01 shared the following advice,

> I would definitely say, take into consideration where you are, think about where you want to go, and then look at what you need to change in order to get there and definitely listen to the people who are in the trenches doing the actual work that's supposed to be supported by the technology so you can be sure that all of the things that they need the technology to do is possible. And if it won't support all or at least most of their needs, take step back and reevaluate the decision to implement the system and maybe look for a different solution that either already exists or look at creating something in-house that could do the work you need it to do. Because I think the biggest frustration on the part of everybody involved is that we put all this work into this effort, and we didn't get enough reward for the sweat equity we put in. (P01)

P02 shared an experience where different stakeholders had different interests, which led to challenges when one group tried to force change without alignment from

others. This led to resistance to the change and taught P02 that alignment is the most critical part of change. The following advice shared by P02,

> My advice for implementing of technology in banking would be always to look for a third-party consultant that has no skin in the game. So someone who can give you a perspective of technology without interest. (P02)

P03 shared an experience in which the change process was highly organized and obtaining buy-in from various stakeholders was important. The management of expectations related to timelines stood out to P03 based on utilization of third-party implementation partners. P03's advice to bank leaders was,

> I would challenge the leaders to, when evaluating vendors, first off, not take what the shiny thing that comes out of the box. Whatever the product is, or the solution is, to not take it at face value. Because when vendors are showing you their product, they're obviously showing you the happiest, best version configuration for their fictional company that doesn't exist, that doesn't have the nuance or complications of a multi-billion dollar bank. And I would take into consideration, the culture of the vendor's approach to innovation. (P03)

P04's lived experience included conducting a comparison of two technology solutions and the project leaders selecting the less-than-optimal solution. There were also challenges with the structure of the project, leading to challenges with execution of the project and rework. P04's advice was,

> Organize, organize, organize, organize. I can't speak enough to how important having organization is. And it's not that high level organization where you decide

> "We're going to involve these people and just let it go." The fine details need to be organized. Down explicitly to who tactically is doing what. What I've come to find on projects like this is that you'll get a lot of great minds in a room together, but when it's time to actually do the tactical work, most people will back away from the table and try to swing the responsibility over somewhere else. People have no problems expressing their opinions and their thoughts. But when it comes to the execution of those opinions end up they're always looking to their left and to their right for someone to do it. And so I think that you need to express the progress in a way where you made sure that when it comes to getting the tactical work done you have the right people in the room. (P04)

P05 experienced a large volume of work with a vast amount of learning in a short period of time. There was a language barrier between the business and technology groups, leading to challenges in communication amongst the teams. P05 did not feel as though the support was there from leadership. P05 shared the following advice,

> Two of the biggest things that I've taken out of it that I voice to our executive leadership on a regular basis are, you know keep in mind who you have doing things. Because if you're running, as most organizations do multiple projects in tandem, if you're relying on the same 20 SMEs to run all of these projects plus do their day job, that's just not reasonable. You need to prioritize things accordingly. And if that means either delaying something or bringing in another person, make the sacrifice at the get go and it'll make everything a lot better in the long run. And then the other portion that I've been with is you need support from the top

> down because unfortunately if you've got your project manager or your IS department or whomever, you know from the bottom of the pyramid trying to push other departments or your VPs or middle management in any way, unless you've got the support and the buy in from your executive level team, you're not going to get anywhere. You're going to have a very unsuccessful project list and a very frustrated set of vendors and project members. (P05)

P06's experience led to a perspective that changes were more siloed, without overarching oversight of the changes being made. Items were rushed and common technologies across the bank were not considered before choosing the ultimate solution. P06 shared that verbal approvals were utilized without true documentation of key decisions. P06 wanted to provide bank leaders the following advice,

> I would say think big picture, think global. Think across all service lines and try to identify where you can utilize the tools that you have already. Don't just go out and buy the next great technology to satisfy a need that you have today. Think about what you're going to need for today and the future, and really communicate amongst each other. If you're a leader of a certain service line, talk to the other service lines. See what they have, see what their needs are, and what their requirements are, so that you can find the best solution for everybody. (P06)

P07 shared an experience related resistance to change, experienced more so from the managers rather than the employees. P07 explained experiences where banks use the term transformation to update old systems rather than structurally rebuilding how banks are built to service customers. P07 shared the following advice,

> Banks continue to make the same mistakes that they think they have to build it all themselves. If they can't build it, then they need to buy something and overpay for something. The best approach is to partner with Fintech or technology companies. It's cheaper. It's more efficient. It's faster time to market, and that's the preferred approach. Partnership is the answer, in many cases. (P07)

Consideration for the customer stood out in each of the three implementations P08 participated in. From a challenge perspective, large technology changes were utilized where smaller integrations with subject matter experts may have been better suited. P08 shared that leadership did not align on the use of resources, choosing those that did not have the knowledge needed for the implementation. P08 shared the following advice,

> Even as we deal with the regulatory maze that has come out of Washington since the collapse, you still have to ask how is this helping our customers? That's the first piece. The second piece is, and I think I mentioned this earlier, stop relying on major implementations of technology to solve issues or even technical issues that you could probably be better served in, I believe we're using the agile methodology now, to come up with some of these solutions. You can't solve everything with a major implementation. That's I think the key piece I want to give to senior leaders. Just have a strong message and vision and navigate the teams that are making the implementation or change happen through the difficult waters. (P08)

P09 experienced a high level of accountability without a full understanding of what the technology was doing for the implementation. P09 shared that there was a lack

of transparency and due diligence was not conducted appropriately, which caused concern due to the regulatory nature of changes. P09 wanted to provide the following advice to bank leaders,

> Have somebody on the team either when it's due diligence or the conversion journey, who's kind of an ethical perspective on should we do something. It's that question around we could, we can and we're allowed and all of that, but should we? That should be there. (P09)

In P10's experience, the leaders communicated that change was coming but did not take the time to describe the pertinent details, as the explanation of the change felt rushed. Although communication was there, there was misalignment within the leadership team. P10 shared the following advice,

> Be decisive and be clear, and also…if it's affecting multiple departments, have everybody make sure they're all on the same page and they're all communicating the same thing. That's the biggest piece that I think I've seen where maybe some changes struggled just because one line of business is all for it, and another line of business may not be all for it. Or all of a sudden there becomes to be a doubt in the value of the change. If the communication is clear, all the messaging is going one way of this is why we're doing it and this is how it's going to be, then everyone will follow suit. (P10)

According to P11's experience, banks are not nimble from a technology perspective due to complex infrastructure. As a result, when dates are selected for an implementation, the amount of work needed to meet the need may not be fully

understood. P11 shared that employees end up working a tremendous number of hours in order to satisfy the timeline requirements. P11 shared that bank leaders should consider the technology solution being implemented when selecting implementation dates.

> What happens is when technology leaders set these grand dates out there, they look good to start with. But the reality of planning to get there and what it takes to plan for that date, I think is a little maybe it's not done, in my opinion, in enough of a formal way to get to realistic dates that the teams can then rally behind. (P11)

In P12's experience, there were multiple layers of applications that had to work together to make the implementation successful, which led to complex requirements for success. The human component of the deployment, such as testers needed to vet the complex testing requirements, was not fully considered. P12 shared the following advice,

> Make sure, like if there are multiple applications that are required for delivery, that they do have the support from the higher senior management level that, if needed, they will be applied to that initiative. If not, then you're going to hit a roadblock right off the top. I think another thing too is that there are times that there is support required from those from the leadership teams to make decisions related to products or when things may go in. And it's just make sure that you're there and available to help service those needs so the project teams can continue to move forward. (P12)

In P13's experience, end-users did not have a vested interest in the success of the implementation. P13's opinion is when pursuing change, it should be more of an

operational change and impact how the bank is operating as a result, thus adding value. P13 shared the following advice for bank leaders,

> I would say make sure that there's a very clear business outcome for what you're trying to do. And not put it in technical terms at all…My other recommendation is just to make sure that the involved parties have skin in the game. So, the business is intent on doing the project, the technology team is brought in. And then probably the last thing is they understand how to measure success because I think that's sometimes you lose that in a project. You'll be on this like nine month project and you'll sometimes, honestly, you'll forget why you even started it. It's been so long and you're like, I think you need to remind people why we're doing the project and what the benefit is going to be to the customer or the fed or internal people. So, there's always a customer somewhere, so how are you going to make their life better? (P13)

Of people, process, and technology, P14 shared that people are the biggest challenge. The utilization of resources is a day-to-day balancing act based on the priority of each of the activities, whether business-as-usual or project-oriented activities. P14 said, “Surround yourself with really smart people that have done it before, but are also compatible with the organizational culture. That's the number one thing.”

P15 experienced having too many people involved and not enough time spent gaining a full understanding of the end-to-end process. There were also competing priorities with other activities, which led to challenges to the implementation. P15 shared the following advice,

> If you're running an enterprise system, make sure you have the right people in the room when you're making the decision on which tool to buy. Because you're not going to be able to implement everything at once…Make sure all those leaders are together and that there's a plotted list of what you're planning to do versus kind of winging it and set realistic timelines. (P15)

In P16's experience the implementation was brand new to the market and did not make intuitive sense to people, which made things more complicated. Prioritization caused challenges, as resources were finite and getting the funds was accomplished by taking from other projects or making a case for why the innovation was more worthy of the technology funds than other projects. P16 shared advice for bank leaders related to creating a forum to receive innovative ideas from employees, and thus provided advice as to how the ideas could be shared.

> Nobody is going to give a crap about your idea unless you can somehow show the value and demonstrate the value of what it is that you're doing. If people don't understand the first five minutes either what that value could be, through talking about the opportunity or the obstacles, you're going to lose them. But there's idea of a finite timeline like on Shark Tank to give the history of the world in three minutes and then tell them what it could be like in two. (P16)

P17's experience was related to change being an uphill battle due to reviews, checkboxes, and hurdles. As a result, P17 shared the importance of getting people on board with change proactively, especially since getting budget dollars can be challenging. P17 shared the following advice for bank leaders,

> I think if you find yourself in a process where you're doing a lot of things that don't feel like they're adding value for the company or the end result, you really need to think of why you're wasting your time and maybe spend a little time trying to change the process. (P17)

P18 shared challenges with getting the technology staff involved at the beginning of initiatives. Since there are aspects of implementations that may be dependent on external parties, obtaining the feedback of technology resources upfront can help with more complex initiatives. P18 shared the following advice,

> These technology projects are often quite different. It's not like a cookie cutter approach. There are always going to be differences in whatever we're implementing and that know that you really have to take the time up front and make sure that you have adequate planning in place and also making sure that you have the appropriate resources, a staff, for these projects. I think a lot of times you'll have a set number of resources to finish and complete a lot of these implementations and by the time that implementation is done people have moved off or moved on to bigger and better things, I guess you can say. And you're not really necessarily, you haven't necessarily planned for resources moving like they do on some of these projects. So, making sure that the leadership understand, again, the complexity. It can make the project more difficult to complete. (P18)

Discussion

When assessing the existing research, conceptual framework, and the results of the study, it became clear that each aspect is in sync. The results of the study provide

additional insights into the potential challenges and positive aspects of an implementation based upon the lived experiences of the 18 participants in this study. Although previous research supports that the role of people when developing and implementing innovation is important, there is little knowledge of how the individual experiences innovation (Martovoy et al., 2015; Nejad, 2016). The results of this study provide insight to aid in closing the identified opportunity to expand upon existing research. The four themes that emerged from this study were change management, leadership role, technology selection, and employee engagement. Each of these themes are supported by existing research to some degree, while the employee engagement theme allows for deeper analysis of how the individuals experienced the change from a more personal perspective.

Focusing specifically on the top 24 codes within Table 9 and specifically those that fall within the Employee Engagement theme, there are seven codes that were most prevalent within this study specific to the employee experience: Collaboration and Inclusion of Key Parties, Resistance to Change, Gained Knowledge or Transferrable Skills, Awareness or Involvement in Change, Consideration of Desired Outcomes, Positive Experience, and Difficult or Stressful. Innovation requires action from people in order to realize the ideas that are being pursued (Leyer et al., 2017; Sartori et al., 2013). It is the collaboration of employees that provides an environment in which change can be pursued objectively and effectively, including the implementation of innovation (Leyer et al., 2017; Martovoy et al., 2015; Sartori et al., 2013). Without the inclusion of key parties, or at least ensuring there is an awareness or involvement in the change for impacted parties, resistance to change is an inherent risk. Since people tend to have a

focus on items in which they see a benefit from accomplishing, inclusion is a key factor to consider proactively to help mitigate the risk of resistance to change by key parties (Cooper, 2011; Cooper, 2017). Feedback and ideas from the employees that complete the day-to-day functions may aid in new sources of knowledge to support the implementation (Theeke, Polidoro, & Fredrickson, 2018). Comparing the desired outcomes to the needs of end-users or impacted parties may also aid in ensuring the changes to support the implementation will suit the needs of those impacted by the change.

In addition to the organization gaining sources of knowledge from employees, participants in change initiatives and innovation implementation gain experiences to learn from and shape how they may pursue, or experience change in the future (Golob et al., 2014; Teece & Leih, 2016; Teece et al., 2016). Participants in change utilize sensemaking to identify lessons learned from previous scenarios (Golob et al., 2014). Participants in this study expressed both difficult or stressful experiences and positive experiences. There is an ability to utilize those lessons learned to shape future experiences (Golob et al., 2014). 10 of the 18 participants in this study expressed that a positive aspect of being involved in the experiences they shared were to gain transferrable knowledge or skills.

As conducted within this study, sensemaking could be utilized by leaders within an organizational system to get an understanding of what is experienced by the employees so that the system can recover more swiftly during challenging times (Teece & Leih, 2016; Teece et al., 2016; Termeer & van den Brink, 2013). The challenges that were experienced by participants in this study shaped the advice that they each provided to bank leaders related to the implementation of future innovation.

To summarize the advice that was provided, bank leaders should consider the following when approaching the implementation of innovative financial technology in the future. Think about the desired outcomes and create a plan on how to achieve the desired results, including the perspectives of those most impacted by the change (P01). This requires a level of organizing that should include the fine details related to accountability and responsibility of those involved in the implementation effort (P04). When defining the resource allocation, consider other priorities that are in queue and ensure there is adequate support from leaders to ensure the appropriate resources are involved (P05, P12, P18). It is equally to include people with the right experience and skillset to support the change (P14). This should include someone who keeps an objective perspective of where certain actions should be taken. Just because you can, doesn't necessarily mean that you should (P09). Always keep in mind how the implementation is helping the customer and making processes better for them (P08, P13).

It is also important to be decisive and clear in communications and ensure everyone is on the same page (P10). This requires communication across the organization to ensure solutions are not short-sighted, but instead are more focused on the bigger picture (P06, P17). When considering important tools to purchase, be sure to include those that would also benefit from the implementation (P15), while also maintaining an objective perspective of the solution being presented (P03). The vendor's culture related to innovation is important and should be considered prior to making purchase decisions (P03). The solution that is selected may create complications with already complex systems, so it is important to have a more systematic approach to selecting realistic

implementation timelines (P11). It may be important to select a third-party consultant with no skin in the game to help with the implementation and give insight into how the technology has been used in other settings (P02). The value proposition for the change is important to all impacted parties, so take the time to ensure to demonstrate the value of the technology (P16). In many cases, partnership with fintech or technology companies are more efficient with faster time to market (P07), so appropriate consideration should be made to ensure all options are considered objectively.

Limitations of the Study

This study was utilized to explore the lived experiences of participants related to the target phenomenon. As a result, the most significant limitation was the size of the participant group utilizing purposeful sampling, for a total of 18 participants. Saturation was obtained prior to the reaching the target sample size of 20. Although the size of the participant population is a limitation to the study, sample sizes in a phenomenological study are relatively small due to the purposeful selection of participants based on the phenomenon being studied (Alase, 2017). The study is focused on individuals that were bank employees during the target timeframe. As a result, this study is limited by the phenomenon being studies and the focus on the banking industry.

The methodology utilized was a phenomenological study utilizing telephone interviews to collect the data, which allowed me to focus on getting qualified participants without being limited by geographic location (Rubin & Rubin, 2012). As a result, geography and access to participants was not a limitation within this study; however due to usage of technology, there may be insights that may have been gleaned utilizing face-

to-face or video interviews that may not have been obtained through the use of telephone interviews. In addition, I utilized LinkedIn to conduct recruiting of qualified participants. Another researcher without a LinkedIn profile or different connections may not yield the same results.

An additional limitation was the detail in which participants went into related to their lived experiences. Some participants provided considerable detail, while others responded more generally. As a result, the quality and length of the responses provided may make it more challenging for an individual replicating the study to achieve the same conclusions or results.

Recommendations

The goal of conducting this research was to gain insight into the lived experiences of bank employees during the implementation of an innovative financial technology. The participants in this study were bank employees that were technology managers, project managers, business analysts, or subject matter experts who participated in the implementation of innovative financial technology in the highly regulated banking environment during the timeframe of 2013 through 2019. A qualitative phenomenological design was utilized in order to obtain insight from participants related to how they experienced the target phenomenon.

Future research may include further exploration into how organizations encourage high performance as well as innovation by exploring how leaders decide to utilize their resources during times of large-scale change (Leyer et al., 2017). Since resource allocation was explained by participants as an area in which challenges were experienced

based on their perspectives, further exploration into the planning process may be beneficial to change management research. In addition, this type of exploration may also provide insight into best practices that may be worth exploring when pursuing innovation while also striving to maintain high performance within the business-as-usual activities.

This study was focused on the experiences of bank employees during the implementation of innovative financial technology. There is an opportunity to conduct research related to the experiences of fintech employees during the implementation of innovative solutions. It may be of interest to identify whether the difference in regulatory environment shifts the experiences.

To pursue innovation, participants in the change utilize their unique experience and expertise to pursue the innovation (Leyer et al., 2017; Sartori et al., 2013). As a result, there is an opportunity to explore whether targeted selection of project participants related to a specific experience or perspective toward change may yield a higher success rate of implementation. This could be conducted via case study using either real-world or simulated change processes.

Implications

Social change is ignited by consciousness of information and deliberate acts, such as conducting research that contributes toward social change (Edwards, 2019). Financial institutions are only able to economic growth through the customers that use the products and services (Kovacevich, 2014). Maintaining competitive advantage is an important component of influencing economic growth within the banking industry (Wang et al., 2017). Bank leaders would benefit from considering the experiences of bank employees

during the implementation of innovative financial solutions, as provided within the results of this study. The advice provided by study participants may provide insight for bank leaders to improve upon their change management processes, more fully engaging the competitive advantage provided by the workforce, or human capital, that they employ (Sartori et al., 2013). Improving upon the implementation of change, including innovative financial technology, influences economic growth and positive consumer outcomes (Nejad, 2016).

As indicated by existing research focused on customer needs, the resulting necessary consumer protections are a primary concern for federal regulators, as well as financial institutions (Murphy, 2015; Schneider et al., 2016). Consumer protections include interactions with third party vendors, which are companies that are contracted to conduct a service (Schneider et al., 2016). The three major banking crises in the past 40 years evidence that a balance is still needed to improve consumer protections (Kovacevich, 2014). The results of this study contribute to positive social change by providing insight into how bank employees experience the implementation of innovative technologies, areas of opportunity and opportunities to learn from experiences to potentially improve the success of implementations, indirectly contributing toward improved adherence to consumer protection requirements. Based on the lived experiences of participants, areas of opportunity include the management of change processes, considerations of technology solutions, reliance on third party relationships with vendors, and keeping the customer needs top of mind when pursuing change.

As explained throughout the study, regulatory requirements have a direct impact on the financial services industry (Bexley, 2014; Murphy, 2015). Regulators have been working on determining the impacts of federal regulations for fintech institutions (Schneider et al., 2016). Regulators may utilize the results of the study to identify impacts of existing regulation and determine future impacts based on planned regulation related to banking technology and third-party banking technology providers. Fintech corporation leaders may be able use the information to inform their business practices related to change effort and prepare for any adjustments to their processes that would be necessary to adhere to future regulatory requirements that may be implemented.

Conclusion

The phenomenological approach selected for this study was done for the purpose of examining how people make sense of a major life experience related to the implementation of innovative financial technology (Smith et al., 2010). Innovation has been described as the implementation of creative ideas, which has a direct relation to the employees that work within the organization (Cooper, 2017; Jorgenson, 2018; Sartori et al., 2013). As a result of the phenomenon that explored and the role of people in innovation, the results of this study provide meaningful insight into how the process of innovation impacts the people that carry out the activities to support innovation. The distinction between the process of innovation and people carrying out those processes is an important one since the majority of research related to innovation is focused more on the process and less on the individual people who make innovation possible (Martovoy et al., 2015; Nejad, 2016).

The 18 participants in this study were employed at a bank during the timeframe of 2013 to 2019 and were technology managers, project managers, business analysts, or subject matter experts who participated in the implementation of innovative financial technology. The focus of this study was their lived experiences related to the implementation of the innovation. The research did not focus on the type of innovation, but instead focused on how they experienced the process of innovation, how they felt about their experiences, and how they have carried their experiences forward. The interviews concluded with a question related to advice that each participant would provide to bank leaders related to future implementation of innovative solutions. The question related to advice was included in order to foster additional sensemaking related to how their experiences may shape the future experiences of others and how bank leaders could capitalize upon the opportunity to learn from their experiences. The themes that emerged from the research were related to change management, technology selection, the role of leadership, and employee engagement. The top 10 codes that were utilized for this study (Table 2) highlighted the importance of a strong change management process, communication throughout the change, inclusion of the proper resources, and gaining alignment on key activities such as selected solutions and use of resources.

What was most telling from the results of this study was the advice that was provided by the participants, where it became evident that they wanted to utilize this opportunity to share what they have learned in an attempt to help others in the future through the results of this study. Although the previous sections provided much of the

detail related to the advice, several items stood out to me. First, people want to be included in change efforts, so they are able to influence the things that impact them. Second, people should understand what is happening, why, and what the benefits are. This includes process and technology. Third, things should be organized in such a way that the desired outcome is clearly articulated and all of the steps to execute are known to all parties involved, including decisions and resources. Fourth, and most meaningful to me, is that people tend to resist change because the above steps were not taken appropriately. Based on the experiences of the participants in this study, prioritizing people, who are the source of innovation and the individuals that make all the processes and technology work, helps to ensure that implementations are successful, and that the human capital of the organization is utilized in the most effective ways.

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Appendix A: Participant Recruitment Letter and Email Verbiage

Dear Potential Participant:

I am a Ph.D. candidate in the Management program at Walden University. I am studying the experiences of people who participated in the implementation of innovative financial technologies within the banking industry, either as technology managers, project managers, business analysts, or subject matter experts, between 2013 and 2019. By understanding people's experiences with implementation of innovation in a highly regulated environment, I may be able to inform the banking industry, regulatory agencies, and consumers of the human aspect of the process of innovation within the banking industry. There is much research related to expenditures and competition related to financial innovation, but there is an opportunity to explore how individuals experience the process of development, implementation, and changes resulting from the implementation.

I need your help to complete this study. I would like to interview you to learn about your experiences if you participated in the implementation of innovative financial technologies as a technology manager, project manager, business analyst, or subject matter expert between 2013 and 2019. The focus of this study is related to the lived experiences of participants during the process of implementation, and not the nature of the or details related to the type of innovation that was implemented. The interview will take no more than 60 minutes via conference call. After I have transcribed the interview, I will ask you to review my understanding of your experiences via email. A follow-up meeting would be scheduled, if needed. Your participation in this study is strictly

confidential. The records of this study will be kept private. I will not include any information that would make it possible to identify you. You can request a copy of the study findings. If you do not wish to take part in the study, is there one or more people you know who would like to be a part of this study? Would you please share this invitation with them? Please note, I am an operational risk professional in the banking industry, but this study is separate from and unrelated to that role.

Please respond by email at [email] or by calling me at [phone number] if you would like to participate in this study or would like to learn more about the study. We would schedule the interview at a mutually convenient time. Thank you for your consideration.

Sincerely yours,

Gloria L. Cortes

Ph.D. Candidate

Appendix B: Interview Protocol

Interviewer: _____

Participant Identifier: _____

Interview Date/Time: _____

Received Informed Consent to Participate? YES / NO

Starting the Interview:

1. Explain the purpose of the interview. Provide a short background of the researcher's connection to the study.

Suggested script:

I would like to take a few minutes to revisit the purpose and goal of the study prior to the interview. This study is focused on exploring the lived experiences of bank employees during an innovative technology implementation. The focus of implementation of innovation research is usually the organizational benefits, the project methodology and processes, or the customer perspective. As a result, I want to focus on the perceptions and experiences of the employees that are a part of the implementation of innovation. Obtaining your perspectives, perceptions, and experiences may reveal key items for future consideration within the banking industry. This is not an evaluation of the innovation that was implemented or processes at your employment, but instead is an exploration of how you experienced the implementation and any significant feelings, thoughts, or challenges you may want to share. I am conducting this study as part of my doctoral program. I have a background in banking in the areas of operational risk and

operational process improvement. My role as an Operational Risk Officer has no bearing on my role as a researcher within this study.

2. Explain participant rights.

Suggested script:

Your response with electronic consent represents your consent for this interview. Please note that all information will be stored securely and confidentially. This interview will be digitally recorded and transcribed for use in my doctoral study. The data collected from this interview will be viewed by me and my dissertation committee. Please note that your involvement is voluntary, and you may choose not to answer a question. You also have the option to stop the interview at any time. The interview should take no more than an hour to complete. Thank you for agreeing to participate.

3. Confirm that participant meets required profile: The target participant would have experience as a technology manager, project manager, business analyst, or subject matter expert during an innovative technology implementation at a bank between 2013 and 2019.

Interview Questions:

I would like you to think about your experiences in which you participated in the implementation of innovative technology-oriented solution. Keeping in mind that the focus is on your experiences of the implementation and not the specific innovation activity:

1. What aspect of the implementation stood out for you? (Incidents, people, experiences, etc.).

2. How did you feel about the experience?

a. Describe how you felt about your level of involvement in the change process.

b. How did the inclusion/exclusion make you feel?

3. What challenges stood out for you, in your personal experience? (environmental, process, people, etc)

4. What thoughts or impressions are most prevalent to you related to the implementation?

5. How did the experience impact you going forward?

6. What advice do you have for bank leaders related to future innovation implementation efforts?

7. Final Question: Is there anything additional that you would like to share about your experiences that I have not asked about?

General Probing Questions:

1. Can you provide an example?

2. Tell me more about _____.

3. Can you expand upon that experience?

Debrief:

Suggested script:

Thank you for helping by participating in my study. After transcribing the interview, I will have a summary of the interview with my interpretation of your experiences. I would like to provide the summary to you via email to review and confirm that I captured the essence of what you have shared with me or to identify where I did not understand so that

I can correct the interpretation. Do you have any questions? Please contact me if you have any questions. Thank you again for your participation.